

Ongoing Monitoring Interpretive Report (December 2020 - May 2023)

RAAF Base Townsville

26-Oct-2023
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RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

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Abbreviations

Abbreviation	Term
AECOM	AECOM Australia Pty Ltd
AFFF	Aqueous Film Forming Foam
AHD	Australian Height Datum
BOM	Bureau of Meteorology
CSM	Conceptual Site Model
Defence	Department of Defence
DO	Dissolved Oxygen
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EPBC	Environment Protection and Biodiversity Conservation
ERA	Ecological Risk Assessment
GWE	Groundwater Elevation
HEPA	Heads of Environment Protection Authority
HHRA	Human Health Risk Assessment
LOR	Limit of Reporting
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
OMP	Ongoing Monitoring Plan
ORP	Oxidation Reduction Potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance and Quality Control
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan

Units

Abbreviation	Term	Abbreviation	Term
kg	Kilogram	m bTOC	Metres below Top of Casing
km	Kilometre	mg	Milligram
L	Litres	SWL	Standing Water Level
m	Metre	µg	Microgram
m AHD	Metres Australian Height Datum		

Executive summary

Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Department of Defence, 2020) at the Royal Australian Airforce (RAAF) Base Townsville (the 'base') located Townsville, Queensland.

This Ongoing Monitoring Interpretive Report summarises the results of the monitoring undertaken over the period between December 2020 and May 2023. The scheduled sampling events were completed in April 2021, October 2021, April 2022, October 2022 and April 2023, with rain event sampling completed in December 2020, February 2021, January 2022 and April 2023. This report provides interpretation of changes that have occurred during the reporting period.

This Ongoing Monitoring Interpretive Report has been prepared in general accordance with the Defence *PFAS OMP Annual Interpretive Report Guidance* (Version 0.4) issued in October 2022 (Defence, 2022).

Objective

The objective of the monitoring program set out in the OMP is to provide information on changes in the location and concentrations of PFAS on-base and off-base within the management and monitoring areas outlined in the PMAP (Department of Defence, 2020) and as depicted in **Figure F1, Appendix A**. Locations which are monitored off-base are located within the Monitoring Area, depicted in **Figure F1, Appendix A** as a pink outline.

The data is required to assist risk management decisions by Defence and State Government agencies to protect human health and the environment.

Monitoring program

AECOM completed periodic monitoring of groundwater, surface water and sediment in accordance with the sampling and analysis quality plan (SAQP) (AECOM, 2023a) from December 2020 to May 2023 (hereafter referred to as the monitoring period). Monitoring events were completed during December 2020, February 2021, April 2021, October 2021, January 2022, April 2022, October 2022, and April to May 2023. The monitoring targeted PFAS and included selected locations on-base and in surrounding off-base areas. The limits of the base form the RAAF Townsville Management Area, as shown in **Figure F1, Appendix A** including Sub-Management Areas related to PFAS sources. The three Sub-Management Areas are:

- Sub-Management Area One: Former Fire Training Area.
- Sub-Management Area Two: Former Fire Training Area.
- Sub-Management Area Three: 5 Aviation Regiment (5AVN).

The Monitoring Area is defined as the base surrounds including the Townsville Town Common Conservation Park, the Bohle River, and portions of the suburbs of Pallarenda, Rowes Bay, Belgian Gardens, Garbutt, West End, Mt St John, Bohle, Burdell and Bushland Beach.

Interpretive assessment

Data collected during the monitoring period were compared to historical data. The ongoing monitoring program data are consistent with data presented in the detailed site investigation (DSI) (WSP, 2018b).

Overall, the groundwater monitoring results do not suggest a change in the understanding of contamination or risk at the monitored locations. The relative stability of the concentrations during the monitoring period within each of the sub-management areas suggests the plume geometry, particularly the lateral extent is unchanged. The PFAS plume in groundwater across the base and extending off-base has also remained consistent with historical extents and generally within the same order of magnitude as historical results.

Some wells within Sub-Management Area One have been destroyed due to remediation activities and present gaps in the data set. Prior to decommissioning, new historical maximum concentrations were reported at MW126. Following the remediation of this area in 2022/2023, concentrations at downgradient wells MW118, MW026 and MW033 have been generally decreasing for the last three monitoring rounds when compared to pre-2022 data. Further monitoring will be required to assess if this is an ongoing trend.

Sub-Management Area Two has historically reported the highest concentrations across the base. The new maximum results reported at MW138 and MW109 and fluctuating concentrations at other wells within Sub-Management Area Two indicate that further monitoring and investigation combined with remedial actions are required to address the PFAS sources in this area. It is also acknowledged that this Sub-Management Area is identified for remediation works during 2023.

Concentrations of PFAS in groundwater at Sub-Management Area Three are stable with MW248 displaying varying concentrations in line with seasonal changes, i.e., higher concentrations following the wet season and lower concentrations following the dry season. Concentrations of PFAS in other on-Base wells were stable with MW255 (located near the western Base boundary) exhibiting decreasing concentrations since 2018. The plume extent for both on and off-Base wells appears unchanged and within the previously identified extents. Concentrations of PFAS in off-Base well MW262 reported an order of magnitude increase in the latest results in April 2023. Concentrations of PFAS in other off-Base wells were generally consistent with historical results. Minor increases in concentrations over the previous maximums are within the expected variability.

Concentrations of PFAS in surface water and sediment during the monitoring period have fluctuated with the seasons and have remained consistent with historical data, though some observations of increasing concentrations have been noted in surface water and sediment, particularly within the Mundy Creek Catchment which reported nine new historical maximums in April 2023, compared to two new historical maximums recorded for each of the other two catchments – Three Mile Creek and Bohle River/Louisa Creek/Town Common Catchments.

Conceptual site model and risk profile

The conceptual site model was reviewed, and no changes were identified to sources, pathways, or receptors at the base or within the Monitoring Area.

The data collected during the OMP over the monitoring period suggest that the risk profile to human health and ecological receptors within the Management Area is unchanged, based on the following conclusions of the data assessment:

- Groundwater PFAS concentrations are relatively stable.
- The overall PFAS plume extent has not changed significantly compared to historical results.
- Off-base well MW262 had a new exceedance of screening levels for drinking water in April 2021 and has exceeded the screening level in the monitoring events since. MW262 has historically

What is an 'order of magnitude'?

This refers to something decreasing or increasing by multiples of ten. For instance, an increase from 10 to 100 is an order of magnitude increase. When assessing changes in PFAS concentrations at an individual location, all concentrations are considered when determining trends, but order of magnitude changes are discussed separately as they represent a significant change in concentrations from what was reported in the previous event.

If a change is close to established health or environmental criteria, it will also be considered significant.

detected PFAS, but the latest April 2023 results represent an order of magnitude increase. The risk assessment previously identified that off-Base groundwater was not used for drinking purposes and as this incomplete exposure pathway has not changed, the risk profile remains the same.

- PFAS concentrations in surface water bodies were generally consistent with historical results. Where increasing concentrations were observed on-base and off-base, these locations will continue to be seasonally monitored to identify trends.
- Sediment concentrations have remained stable and consistent with historical results with some slight increases (within the same order of magnitude as previous results), demonstrating seasonal effects of higher-than-average rainfall conditions increasing concentrations of PFAS downstream of known source locations, due to sediment deposition in run-off.

The pathways for PFAS exposure and risks to human health and ecological receptors presented in the HHRA (WSP, 2018a), ecological risk assessment (WSP, 2019c) and PMAP (Department of Defence, 2020) remain unchanged and therefore the risks profile remains unchanged.

Conclusions

The monitoring conducted over the period covered within this report is considered to have met the objectives of the SAQP (AECOM, 2023a) and the overall OMP as outlined in the PMAP (Department of Defence, 2020). Although some wells within Sub-Management Area One have been destroyed due to recent remediation works, the monitoring network is considered generally appropriate and sufficient for the program objectives.

The CSM was reviewed, and no changes were identified to the sources, pathways or receptors at the base and within the Monitoring and Management Areas.

It is recommended that the OMP for groundwater, surface water and sediment is continued to monitor the extent of PFAS, potential migration and any associated risk changes in accordance with the SAQP.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Department of Defence, 2020) at the Royal Australian Airforce (RAAF) Base Townsville (the 'base') located Townsville, Queensland.

The monitoring targeted PFAS in groundwater, surface water and sediment at selected locations on-base and in surrounding off-base areas, including the Management Area as outlined in the PMAP (Department of Defence, 2020) and as depicted in **Figure F1, Appendix A**. Locations which are monitored off-base are located within the Monitoring Area, depicted in **Figure F1, Appendix A** as a pink outline.

To meet the objectives of the OMP, the monitoring was undertaken in accordance with the *Sampling and Analysis Quality Plan* (SAQP) (AECOM, 2023a) (Rev 9 dated 5 April 2023). The SAQP was reviewed and updated, as required, prior to each monitoring event.

This Interpretative Report has been prepared in general accordance with the Defence *PFAS OMP Annual Interpretive Report Guidance* (Version 0.4) issued in October 2022 (Department of Defence, 2022). The report summarises the results of the monitoring completed in the monitoring period from December 2020 to May 2023 (hereafter referred to as "the monitoring period").

1.1 Purpose and objectives

The objective of the monitoring program set out in the OMP is to continue to assess changes in the nature and extent of PFAS within the environment, where Defence's historical use of legacy Aqueous Film Forming Foam (AFFF) has led to a potentially elevated risk to a receptor, or potential future risk to a receptor within the Management Area.

Assessing changes in the distribution, concentration, and transport (pathways) of the contaminants against appropriate guideline values provides:

- An evidence-based approach for targeted and effective risk management decision making to protect human health and environmental receptors.
- An early warning indication that additional management of PFAS contamination may be warranted in areas not currently understood to be affected by PFAS.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PFAS Management Area Plan (PMAP) (Department of Defence, 2020), the Human Health Risk Assessment (HHRA) (WSP, 2018a) or Ecological Risk Assessment (ERA) (WSP, 2019c) documentation, as required.

1.2 Scope

The scope of works for this Ongoing Monitoring Interpretive Report is to assess changes to the nature and extent of select PFAS over the monitoring period (December 2020 to May 2023) and evaluate if these changes have implications for the understanding of the Conceptual Site Model (CSM) and the risk profile with respect to PFAS impacts within the Management Area.

This included a review of the 2020 annual interpretive report (AECOM, 2021b) and an evaluation of data reported in the following factual reports (included in **Appendix E**), historical data, and meteorological data:

- *Rainfall Event Sampling Factual Report, December 2020* (AECOM, 2021c)
- *Rainfall Event Sampling Factual Report, February 2021* (AECOM, 2021d)
- *Sampling Event Factual Report, April 2021* (AECOM, 2021e)
- *Sampling Event Factual Report, October 2021* (AECOM, 2021f)
- *Rainfall Event Sampling Factual Report, January 2022* (AECOM, 2022a)

- *Sampling Event Factual Report, April 2022* (AECOM, 2022b)
- *Sampling Event Factual Report, October, and December 2022* (AECOM, 2022c)
- *Rainfall Event Sampling and Sampling Event Factual Report, April, and May 2023* (in draft) (AECOM, 2023b)
- *RAAF Base Townsville Detailed Site Investigation – PFAS* (WSP, 2018b)
- Data for river levels within the Monitoring Area and meteorological data (see **Section 6.0**).

To complete this scope of work, AECOM completed biannual groundwater, surface water and sediment monitoring in April and October 2021, April and October 2022 and April to May 2023, in accordance with the SAQP (AECOM, 2023a) applicable at the time of sampling. Rainfall event sampling was conducted in, December 2020, February 2021, January 2022 and April 2023.

2.0 Base setting

2.1 Base description

Table 1 summarises the base identification and setting for RAAF Base Townsville as presented in the PMAP (Department of Defence, 2020) with updated information, where relevant.

Table 1 Site Identification and Setting Summary

Element	Description
Base ID	RAAF Base Townsville, 0874
Location	The base is located in Garbutt, a suburb of Townsville, Queensland. Entry to the base is off Ingham Road, Garbutt, approximately five kilometres (km) from Townsville City, as shown in Figure F1 in Appendix A .
Regional climate (Refer to Section 6.3 for further information)	The regional climate of Townsville is classified as tropical; however, rainfall is typically lower than other locations on the coast of North Queensland. The wet season, from approximately October to April is associated with hot and humid conditions with periods of heavy rain. The dry season is associated with dry, warm days and cool nights from approximately May to September. The OMP sampling events have been designed to target the end of the wet and dry seasons.
Topography, geology, and hydrogeology	<p>The base and surrounds are generally flat and low lying and are associated with the Bohle River and Townsville Town Common Conservation Park wetlands systems, which are subject to flooding and tidal inundation. The base has an elevation of between 2 and 5 metres Australian Height Datum (mAHD). The elevation decreases towards to north and northwest, reaching sea level in the Townsville Town Common Conservation Park and at Pallarenda and Rowes Bay beaches.</p> <p>The general underlying geology is Quaternary-aged alluvium comprising clay, silt, sand, and gravel. The surface geology is presented in the Detailed Site Investigation (DSI) Report (WSP, 2018b).</p> <p>The geology is varied across the Monitoring Area; however, in general it is described as Pleistocene, quartzose, fluvial sands and gravels deposited by the Ross/Bohle River systems, overlain by shallow marine and estuarine clays, which in turn are overlain by coastal plain sediment comprising silts, clays, and minor sands. The underlying basement of Townsville is described as Julago Volcanic, comprising rhyolite to andesitic lava tuff, volcanic breccia, agglomerate with some conglomerate, sandstone, siltstone, shale, and coal seams.</p> <p>There are three rocky outcrops in the region: Many Peaks Range to the north, Mount Louisa to the southwest and Castle Hill to the east.</p> <p>Three aquifers have been identified at the base (WSP, 2018b), summarised as:</p> <ol style="list-style-type: none"> 1. A shallow unconfined sand aquifer hosted in the coastal sand dunes of Cleveland Bay, Rowes Bay and Pallarenda, with a maximum depth of 6.5 metres below ground level (mbgl); overlying 2. A shallow, semi-confined aquifer comprised of interbedded clays, silts and sands forming a connected aquifer across the base, with depths between 8 mbgl (on-base) and 11 mbgl (within Garbutt), overlying 3. A deeper, semi-confined aquifer located in sands and gravels associated with paleo-channels at depths between 15 and 40 mbgl. <p>Inferred groundwater flow directions derived during the DSI (WSP, 2018b) and the Seasonal Monitoring Reports (WSP, 2019a; WSP, 2019b) indicated groundwater flows in a north to northeast direction across the Monitoring Area towards the Townsville Town Common Conservation Park and Rowes Bay. A piezometric high point extends from Garbutt across the southeast corner of the base to north area of the base, potentially due to a higher rate of surface water infiltration in this area. Groundwater</p>

Element	Description
	<p>flow is partially radial around this area towards the west, northwest, northeast and east.</p>
Surface Water and drainage	<p>The base has three main surface water catchments: the Bohle River drainage sub-basin including Bohle River/Louisa Creek/Town Common catchment, Three Mile Creek and Mundy Creek (also referred to as Captain's Creek). The monitoring network targets these catchments, both on-base and off-base.</p> <p>The three main drainage channels which flow into the base are Louisa Creek, Peewee Creek and Mount St John Drain, all of which have catchments within the urbanised suburbs to the south and east. Peewee Creek is a small watercourse that flows into Louisa Creek. Louisa Creek drains to the Townsville Town Common Conservation Park to the north of the base. Drainage to the west enters the base through the Mount St John Drain, which is separated from Louisa Creek by an elevated ridge line. The primary flow path of the drain is north, away from the base.</p> <p>On-base, a network of drains primarily direct surface water towards the northwest towards the Louisa Creek floodplain, Townsville Town Common Conservation Park and the Bohle Estuary. Surface water from the southeast corner of the base is directed to the east and then north into Mundy Creek catchment and ultimately Rowes Bay. The ordnance loading aprons and Runway 01/19, drain towards the northern boundary into the palustrine wetlands located adjacent to Rowes Bay Golf Club and ultimately into Three Mile Creek. The area to the north of Runway 01/19 along the eastern boundary of the base, drains east into the watercourse that runs along the northern side the Belgian Gardens Cemetery, joining Mundy Creek to the east before flowing north into Rowes Bay.</p> <p>Sections of the base located adjacent to the runways, are subject to inundation and have pumping networks designed to prevent flooding. Surface water is pumped from sumps which discharge to the wetlands along the western, northwestern and northern sides of the base.</p> <p>Waterways and catchments are labelled in Figure F1 in Appendix A.</p>
Vegetation	<p>Grounds on base are regularly maintained by the Estate Maintenance and Operation Support (EMOS) contractor. This includes mowing of grassed areas.</p> <p>Areas of wetland vegetation are present across the western portion of the Base. These areas are populated with protected marine plants and classed as "Nationally Important Wetlands" by the <i>Environmental Protection and Biodiversity Conservation (EPBC) Act 1999</i>. However, the environmental values cited in the EPBC Protected Matters Search Tool report (Commonwealth of Australia, 2021) are unlikely to be sustained given the historical use of the Property and the enactment of the wildlife hazard management plan which manages habitat on and surround the Base to limit the frequency and severity of bird strikes with aircraft (AECOM, 2019).</p>
Current and previous land use (including AFFF use)	<p>The base has operated as an airfield since the late 1930s and the two runways are now shared with the Townsville Civilian Airport. The base is subject to a large range of operational uses including but not limited to four military units, accommodation facilities, a fire station, current and former fire training grounds, fuel farms and an aircraft runway. PFAS was a component of legacy AFFF used at the base for managing fuel fires and training Defence personnel in fire-fighting techniques, which contained containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) as active ingredients.</p> <p>Defence has phased out the use of legacy AFFF to the use of Ansulite foam which does not contain PFOS and PFOA as active ingredients, although they are still present in trace amounts. Ansulite is used by Defence only in emergency situations where human life is at risk, or in controlled environments to test equipment.</p> <p>Previous environmental investigations have identified that soil, sediment, surface water and groundwater on- and off-base have been impacted by PFAS.</p>

Element	Description
Land uses surrounding the base	The surrounding area comprises the residential suburbs of Pallarenda, Rowes Bay, West End and Belgian Gardens. Other land use includes various public facilities and parklands, a cemetery, and commercial/light industrial land use in the suburbs of Mount Louisa, Mount St John and Bohle. The Townsville Town Common Conservation Park is zoned as "Public Utilities – Townsville City Council (Reserves)" and "Special Uses – National parks" under the Townsville City Plan. Bohle River and Bohle River estuary are also extensively used for recreational fishing.

2.2 Management Area

The PFAS Management Area comprises the limits of the base where management actions, including those where institutional controls have been adopted, are identified, and managed by the PMAP (Department of Defence, 2020). The PMAP identifies three discrete Sub-Management Areas within the Management Area, which are monitored for changes in PFAS concentrations in groundwater, surface water and sediment. The Management Area and three Sub-Management Areas are shown on **Figure F1, Appendix A** and the Sub-Management Areas are presented in **Section 2.2.1** below. Off-base monitoring locations located outside the Management Area are within the Monitoring Area outlined in pink on **Figure F1, Appendix A** and discussed further in **Section 2.2.2**.

2.2.1 Sub-management areas (Source Areas)

The Sub-Management Areas have been defined based on the source areas identified in the DSI (WSP, 2018b). The Sub-Management Areas are outlined in **Table 2** and shown on **Figure F1, Appendix A**.

Table 2 Sub-management areas on-base

Sub-management area	Monitoring locations	Purpose
Sub-Management Area One: Former Fire Training Area (CSR_QLD_000246).	MW013, MW116 ¹ , MW118, MW126 ¹ , MW129 ¹ (Monitoring locations depicted in Figure F2, Appendix A)	This area is located in the southeastern portion of the base. Surface water from this area flows to Mundy Creek. Historically the area was used for routine fire training activities, purging of fire trucks, and testing of aqueous AFFF mixing (Department of Defence, 2020).
Sub-Management Area Two: Former Fire Training Area (CSR_QLD_000244), Fire Station (CSR_QLD_000245), Fuel Farm 2 (CSR_QLD_000351).	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251 (Monitoring locations depicted in Figure F2, Appendix A)	This area is located in the centre of the base and is a source area for Louisa Creek Catchment and the Townsville Town Common. This area has been defined to manage the PFAS source from historical fire training activities, equipment testing, sparging of fire trucks and AFFF spills at the fire station (Department of Defence, 2020).
Sub-Management Area Three: 5 Aviation Regiment (5AVN)	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248, MW249 ¹ (Monitoring locations depicted in Figure F2, Appendix A)	This area is located in the southwestern portion of the base and is a source area for Louisa Creek Catchment and the Townsville Town Common. This management area is defined to manage the PFAS source from testing AFFF deluge systems in the 5AVN precinct, including discharges and spills from hangars (Department of Defence, 2020).

¹ Historical monitoring location.

2.2.2 Remaining on-base groundwater monitoring areas

Table 3 presents remaining on-base groundwater monitoring wells located within the Management Area.

Table 3 Remaining on-base groundwater monitoring locations

Area	Monitoring locations	Purpose
Remaining on-base		
Northern section of base	MW136, MW140, MW243, MW244	These locations are downgradient of Sub-Management Area Two and allow for monitoring of transport of contaminants from this Sub-Management Area.
Northwest of runway 07/25	MW112	This location is downgradient of Sub-Management Area Three and allows for monitoring of transport of contaminants from this Sub-Management Area.
East and southeast of Sub-Management area one	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232	These locations are cross-gradient to downgradient of Sub-Management Area One and allow for monitoring of transport of contaminants from this Sub-Management Area.
South of Ingham Road	MW226, MW227, MW228, MW229	These locations are close to the base and allow for monitoring of boundary concentrations.
Balance of base area	MW002, MW004, MW056, MW057, MW122, MW135, MW230 (replaced with MW300), MW234, MW235, MW241, MW242, MW245, MW255, MW265, MW470	These locations are generally spread around the boundary of the base and allow for monitoring of concentrations entering or leaving the base.

2.3 Monitoring Area

In addition to the on-base locations, groundwater monitoring locations and surface water catchments off-base are also monitored for changes in condition within the Monitoring Area, outlined in pink on **Figure F1, Appendix A**. These areas are presented in the following sub-sections.

2.3.1 Additional groundwater monitoring areas

The groundwater monitoring areas outside the Management Area (on-base) are presented in **Table 4**.

Table 4 Off-base groundwater monitoring locations

Area	Monitoring locations	Purpose
Off-base		
Townsville Town Common Conservation Park	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208	These locations are located in the nearby sensitive receiving environment.
Bohle River and Bohle Industrial Estate	MW231, MW237, MW238, MW239, MW240, MW254, MW262	Monitoring of these locations allows for an understanding of groundwater flow and potential cross-gradient flow of contaminants or capture of off-base sources of contamination.

Area	Monitoring locations	Purpose
Pallarenda	MW233, MW252, MW253	These locations are in the residential suburb of Pallarenda, to the north and down-gradient of the base.
Rowes Bay and Belgian Gardens	MW209 (replaced with MW301), MW210 (replaced with alternative location MW471), MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW467	These locations are in the residential suburbs of Rowes Bay and Belgian Gardens, to the northeast of the base.
Garbutt	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270	These locations are in the residential suburb of Garbutt, to the southeast of the base.

2.3.2 Surface water catchments

To aid in understanding transport of contaminants off base, surface water catchments have been defined based on the drainage channels identified in the DSI (WSP, 2018b). The surface water and sediment monitoring areas have been outlined in **Table 5**. These areas were selected to target the different catchments local to the base.

Table 5 Surface water catchments

Catchment	Monitoring locations	Purpose
Mundy Creek (Monitoring locations depicted in Figure F3, Appendix A)	SW/SD001, SW/SD010, SW/SD106, SW/SD108, SW/SD109, SW/SD113, SW/SD114, SW/SD115, SW/SD116, SW/SD117, SW/SD118, SW/SD119, SW/SD121, SW/SD132, SW/SD208, SW/SD209.	This catchment is monitored to understand the transport of PFAS in surface water from Sub-Management Area One as defined in Table 2 .
Bohle River / Louisa Creek / Town Common (Monitoring locations depicted in Figure F3, Appendix A)	SW/SD013, SW/SD014, SW/SD016, SW/SD017, SW/SD019, SW/SD021, SW/SD110, SW/SD111, SW/SD112, SW/SD120, SW/SD123, SW/SD125, SW/SD126, SW/SD127, SW/SD129, SW/SD131, SW/SD201, SW/SD202, SW/SD203, SW/SD204, SW/SD205, SW/SD206, SW/SD207.	This catchment is monitored to understand the transport of PFAS in surface water from Sub-Management Area Two and Sub-Management Area Three as defined in Table 2 .
Three Mile Creek (Monitoring locations depicted in Figure F3, Appendix A)	SW/SD102, SW/SD107, SW/SD210.	This catchment is monitored to understand the transport of PFAS in surface water from a potential former fire training ground (CSR_QLD_000247) at the northern end of the main runway.

A subset of surface water locations are sampled as part of the rainfall event sampling, these are shown in **Figure F3, Appendix A**.

3.0 Sampling and Analytical Methodology

3.1 Sampling Methodology

The SAQP (Rev 9, April 2022, (AECOM, 2023a)); **Appendix D**) outlines the proposed schedule, methodology, analytical regime and rationale for sampling, prescribing six-monthly groundwater, surface water and sediment sampling on and off-base, with the addition of one rainfall event per calendar year. A rainfall event is triggered in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au (BOM, 2023) website or 100 mm of cumulative rainfall over a 7-day period and includes surface water sampling at 19 locations, daily for a period of 5 days.

The list of groundwater monitoring wells, surface water and sediment locations sampled during each of the above events and the rationale for the well and location selection is summarised in the SAQP (AECOM, 2023a). Deviations from the SAQP are presented below in **Section 3.2**.

A summary of the monitoring events completed between December 2020 and May 2023, is provided in **Table 6**.

Table 6 Summary of Monitoring (December 2020 to May 2023)

Monitoring Event (Sampling dates)	Scope as per SAQP applicable at sampling time	Samples Collected	Analysis
Rainfall Event, December 2020 after 50 mm of rainfall recorded at Townsville Aero (BOM station 032040) on 27 December 2020. (AECOM, 2021c) (27 - 31 December 2020)	19 SW samples collected on five consecutive days	18 SW samples collected on five consecutive days. 1 sample collected on four days due to accessibility.	PFAS extended suite, inorganics, metals
Rainfall Event, February 2021 after 61 mm of rainfall recorded at Townsville Aero (BOM station 032040) on 9 February 2021. (AECOM, 2021d) (9 – 13 February 2021)	19 SW samples collected on five consecutive days	18 SW samples collected on five consecutive days. 1 sample collected on four days due to accessibility.	PFAS extended suite, inorganics, metals
Biannual Sampling – April 2021 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2021e) (15 April - 28 May 2021)	Gauging at 25 selected wells 110 GW samples 42 SW samples 42 SD samples	109 GW samples 39 SW samples 37 SD samples	PFAS extended suite
Biannual Sampling – October 2021 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2021f) (28 September – 16 October 2021)	Gauging at 27 selected wells 85 GW samples 42 SW samples 42 SD samples	84 GW samples 35 SW samples 41 SD samples	PFAS extended suite
Rainfall Event, January 2022 after 85 mm of rainfall recorded at Townsville Aero (BOM station 032040) on 26 January 2022. (AECOM, 2022a) (26 -30 January 2022)	19 SW samples collected on five consecutive days	18 SW samples collected on five consecutive days. 1 sample collected on four days due to accessibility.	PFAS extended suite
Biannual Sampling – April 2022 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2022b) (11 April - 5 May 2022)	Gauging at 26 selected wells 110 GW samples 42 SW samples 42 SD samples	109 GW samples 42 SW samples 42 SD samples	PFAS extended suite

Monitoring Event (Sampling dates)	Scope as per SAQP applicable at sampling time	Samples Collected	Analysis
Biannual Sampling – October and December 2022 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2022c) (5 October - 19 October 2022 and 12-13 December 2022)	Gauging at 26 selected wells 85 GW samples 42 SW samples 42 SD samples	81 GW samples 33 SW samples 41 SD samples	PFAS extended suite
Biannual Sampling – April and May 2023 Groundwater, Surface Water and Sediment Sampling Event (AECOM, 2023b) (11 April - 4 May 2023)	Gauging at 28 selected wells 107 GW samples 42 SW samples 42 SD samples	105 GW samples 40 SW samples 40 SD samples	PFAS extended suite

Notes: SW = surface water; GW = groundwater, SD = sediment

3.2 Deviations from SAQP requirements

The works undertaken over the monitoring period generally complied with the SAQP (AECOM, 2023a) which notes deviations from the OMP. Some deviation from the SAQP (AECOM, 2023a) was recorded as some locations were not able to be sampled due to access restrictions, damage to the monitoring well network, or dry surface water channels at the time of sampling. These deviations are summarised in the following subsections.

3.2.1 Groundwater

The deviations from the SAQP for groundwater samples are detailed in **Table 7**.

Table 7 Deviations from SAQP for groundwater

Sampling event	Location ID	Issue	Impact
April 2021	All 27 groundwater gauging locations	The depth to groundwater is to be measured commencing with on-base wells and moving to off-base locations and finishing with tidally influenced wells along the coastline and waterways. The depth to groundwater was measured at both on base and off base wells concurrently. Off-base tidally influenced wells along the coastline and waterways were gauged prior to other off-base wells.	Nil. Tidally influenced wells were gauged within the same tide, therefore this is not considered to impact interpretation of data.
	MW237 and MW239	Depth to groundwater was not recorded at MW237 and MW239 during the gauging round as these locations were inadvertently missed on the SAQP figure and so data from these locations were not included in inferred groundwater contours. SAQP figures were updated prior to the October 2021 sampling round.	Minor

Sampling event	Location ID	Issue	Impact
	MW244	Location was not sampled as it was unable to be located beneath pooled surface water and sediment related to construction works.	Minor. Alternative down gradient wells were able to be sampled.
October 2021	All 27 groundwater gauging locations	The depth to groundwater is to be measured commencing with on-base wells and moving to off-base locations and finishing with tidally influenced wells along the coastline and waterways. The depth to groundwater was measured at both on base and off base wells concurrently by two field staff. Off-base wells along the coastline and waterways were gauged prior to other off-base wells.	Nil. Tidally influenced wells were gauged within the same tide, therefore this is not considered to impact interpretation of data
	MW267	Depth to groundwater was not recorded at MW267 during this gauging round as this location was not accessible due to construction works at the time of sampling. Therefore, MW260 was gauged in place of MW267.	Nil. Alternative well location gauged to assist with groundwater contour development.
		MW267 was not sampled as access was prohibited due to construction works.	Minor. Alternative wells available close to this location were able to be sampled thereby reducing the potential impact of not sampling at this location.
April 2022	MW253	Well was unable to be accessed this round due to damage to monument.	Minor. Sampling during this monitoring round could not be completed. Repairs to the monument were requested and completed. Sampling from this location was able to be completed during the October 2022 event.
October 2022 and December 2022	MW004, MW255, MW207	Water quality parameters were not reported due to a data migration error with AECOM's electronic data collection software.	Nil. Water quality parameters are not used for interpretation of PFAS trends. Readings of water quality parameters at these locations were able to be completed during the April and May 2023 event
	MW246, MW471	Insufficient water column was present for collection of water quality parameters.	
	MW116, MW126, MW129	Monitoring locations were decommissioned as part of works being completed by contractors within Sub-management area one and could therefore not be gauged or sampled.	Minor. Two monitoring wells (MW013 and MW118) remain within Sub-Management Area One, therefore coverage of the area can be maintained via these and other surrounding locations (MW033, MW034, MW120).

Sampling event	Location ID	Issue	Impact
	MW301	Location was dry and could not be sampled	Minor. Monitoring location was sampled during the previous and following rounds. Coverage of the area was maintained through two other local wells (MW208, MW471).
	MW218	Resampled in December 2022 due to new historic maximum reported during October 2022 sampling event	Resampling confirmed the new maximum concentration for PFAS.
April and May 2023	MW013	MW013 was unable to be sampled due to construction works being completed in Sub-management Area 1 restricting access to this location.	Minimal impact. Adjacent location MW120 was substituted as an alternative to MW013 for the gauging round and for the generation of groundwater contours. MW118 remains within the northern portion of Sub-management Area 1 and was able to be accessed and sampled to obtain a representative groundwater sample down-gradient of Sub-management Area 1. Locations immediately south and east of Sub-management Area 1 (MW033, MW034, MW063 and MW120) were accessed and sampled providing up- and cross-gradient information. Monitoring network is considered to provide adequate coverage of Sub-management Area 1.
	MW258	MW258 was unable to be sampled due to a damaged gatic cover bolt preventing access to the well.	Minimal impact. MW225, MW257 and MW259 are in the vicinity of MW258, and were accessed and sampled providing adequate coverage of the area.
	Multiple Locations	One of the water quality meters (WQM) used did not have a turbidity probe so this parameter was not recorded for 35 groundwater locations. Data syncing errors resulted in the loss of data for seven groundwater and two surface water locations.	Minimal impact. Water quality data is not used for assessment against guidelines.
	N/A	Trip blank required to be submitted to laboratory with each batch. Trip blanks were included with three batches throughout the program (EB2311298, ET2302407 and 986709). This did not meet the expected frequency of one per batch of samples submitted to the laboratory.	Refer to Section 4.0 .

3.2.2 Surface water

The deviations from the SAQP for surface water samples are detailed in **Table 8**.

Table 8 Deviations from SAQP for surface water

Sampling event	Location ID	Issue	Impact of deviation on data set
December 2020 (Rainfall Event)	SW016	Location SW016 was unable to be sampled on one of five days (31 December 2020) due to safety concerns associated with flooded access roads. This location was not sampled on this date.	Minor impact – Concentrations of PFAS compounds at SW016 were highest on the first day of sampling. Concentrations decreased over the first three days of sampling. All samples collected at this location were above the 95% species protection guideline for freshwater and marine ecosystems. This is consistent with all but two on-base surface water sampling locations. The collection of a surface water sample at this location on the fifth day would be unlikely to affect the interpretation of the data.
February 2021 (Rainfall Event)	SW016	Location SW016 was unable to be sampled on one of five days (11 February 2021) due to conflict with base activities. Access was not granted by air traffic control on this date and the location was not sampled.	Concentrations of PFAS compounds at SW016 were highest on the second day of sampling. All samples collected at this location were above the 95% species protection guideline for freshwater and marine ecosystems. This is consistent with all but two on-base surface water sampling locations. It is considered that the collection of a surface water sample at this location on 11 February 2021, on the third day of the sampling program, would be unlikely to affect the interpretation of the data.
April 2021	SW106, SW201 and SW209	SW106, SW201, SW209 were inaccessible during the sampling round due to flooding and unsafe access, therefore surface water samples could not be collected from these locations. Attempts were made on two occasions to access these locations; however, safe access was unable to be provided during the April 2021 monitoring event.	<p>SW106 and SW/209 are located on-base and off-base, respectively, in the Mundy Creek Catchment. Surface water flow directions, as defined in the PMAP (Department of Defence, 2020) indicate that SW209 is located downstream of SW106, and SW108 and SW208 are located downstream of SW209.</p> <p>Historically PFAS detections at SW106 and SW209, have fluctuated between the same orders of magnitude and several orders of magnitude higher than PFAS detections at downstream SW108 and SW208.</p> <p>The absence of data from SW106 and SW/209 may impact on interpretation of data within the Mundy Creek Catchment.</p> <p>SW201 is the upstream sampling location of the Bohle River. Historically PFAS detections at SW201 were the same order of magnitude as samples collected downstream at SW129, and therefore the absence of data from SW201 in this sampling round is unlikely to impact on interpretation of data.</p>

Sampling event	Location ID	Issue	Impact of deviation on data set
October 2021	SW013, SW019, SW106, SW107, SW121, SW125 and SW209	SW013, SW019, SW106, SW107, SW121, SW125 and SW209 were dry at the time of sampling and no surface water samples were collected during October 2021.	The lack of water provides information about the condition and seasonality of surface water in these areas and demonstrates that PFAS is not migrating in surface water during the dry season at these locations.
January 2022 (Rainfall Event)	SW016	Location SW016 was unable to be sampled on the second day of sampling (27 January 2022) due to flooding restricting safe access to the location.	From data collected, PFAS concentrations were highest on the first day of sampling, consistent with other locations, and as sampling was able to be completed on the subsequent days, the interpretation of PFAS migration, through the catchment, due to rain events was not affected.
April 2022	Bohle River Catchment	Sampling by boat completed in the first week of May instead of April due to favourable tidal conditions and sub-contractor availability.	Minimal impact is expected. Historically sampling during May has occurred for these locations (2019) with no impact to results noted.
October 2022	SW001, SW013, SW016, SW019, SW125, SW121, SW132, SW102, SW107	Locations were dry or with insufficient volume to collect a sample at the time of sampling and no surface water samples were collected during October 2022.	<p>The lack of water provides information about the condition and seasonality of surface water in these areas and demonstrates that PFAS is not migrating in surface water during the dry season at these locations.</p> <p>Three other surface water samples were able to be collected from near SW121 and SW132 (SW010, SW119, SW117).</p> <p>Sediment samples were able to be collected from the co-location to provide information on the presence of PFAS at these locations in dry season conditions.</p>
April and May 2023	Rainfall event sampling locations	Integration of rain event and wet season surface water sampling events.	No impact on data set.
	SW106 and SW209	SW106 and SW209 were inaccessible due to flooded road conditions.	Minimal impact as locations have been historically sampled and there is sufficient information from other locations to inform the interpretation of the distribution of PFAS within the Monitoring and Management Areas for April and May 2023.
	SW109 and SW119	Syncing errors of WQM resulted in the loss of data for surface water locations SW109 and SW119.	Water quality data is not used for assessment against guidelines and therefore there is minimal impact to the data set.

Sampling event	Location ID	Issue	Impact of deviation on data set
	N/A	Trip blank required to be submitted to Laboratory with each batch. Trip blanks were included with three batches throughout the program (EB2311298, ET2302407 and 986709). This did not meet the expected frequency of one per batch of samples submitted to the laboratory.	Refer to Section 4.0 .

3.2.3 Sediment

The deviations from the SAQP for sediment samples are detailed in **Table 9**.

Table 9 Deviations from the SAQP for sediment

Sampling event	Location ID	Issue	Impact
April 2021	SD106, SD201 and SD209	SD106, SD201, SD209 were inaccessible during the sampling round due to flooding and unsafe access, therefore sediment samples could not be collected from these locations. Attempts were made twice to access these locations; however, safe access was unable to be provided during the April 2021 monitoring event.	Minor impact – Refer discussion above in Table 8 for these co-located surface water samples.
	SD119, SD127	No sediment was available for collection at SD119 and SD127 at the time of sampling. No sediment sample was analysed from this location in April 2021.	Minor impact. Location was sampled in October 2021.
October 2021	SD132	No sediment was available for collection at SD132 at the time of sampling. No sediment sample was analysed from this location in October 2021.	Minor impact. Locations were sampled in October 2021.
October 2022	SD014, SD120, SD125	Resampled in December 2022 due to new historic maximums reported during October 2022 sampling event	Resampling confirmed the new maximum concentration for PFAS at SD120 and SD125, whilst resampling at SD014 found results more in line with historic maximums.
	SD126	No sediment available to sample at the location.	Location was sampled during the next monitoring round in April 2023.
April and May 2023	SD109 and SD119	SD106 and SD209 were inaccessible due to flooded road conditions.	Minimal impact – locations have been historically sampled and will be resampled in the dry season of 2024.

3.3 Changes to the Monitoring Network

Minor monitoring well repairs were completed during the monitoring period to allow consistent access for sampling. Further details are provided in the individual factual reports in **Appendix E**. The monitoring well network is considered sufficient for the purpose of monitoring and repairs are considered to have had insignificant impact on the dataset.

4.0 Quality Assurance and Quality Control

Data validation completed as part of the December 2020 (AECOM, 2021c), February 2021 (AECOM, 2021d), April 2021 (AECOM, 2021e), October 2021 (AECOM, 2021f), January 2022 (AECOM, 2022a), April 2022 (AECOM, 2022b), October/December 2022 (AECOM, 2022c) and April/May 2023 (AECOM, 2023b) Sampling Event Factual Reports is discussed in the individual reports (included as **Appendix E**).

During the April and May 2023 sampling event, trip blank samples were not submitted to the laboratory at a rate of one per batch of primary samples due to an oversight by field staff. Trip blanks were included with three batches throughout the program (EB2311298, ET2302407 and 986709). Concentrations were reported below the laboratory limit for all analytes tested in the trip blanks, except for 0874_QC552_230505, which had detections of PFHxA, PFHxS, PFOS, and PFOA. Sample 0874_QC552_230505 was submitted to the secondary laboratory along with the triplicate samples in batch 986709. As trip blank 0874_QC552_230505 was prepared by a different laboratory, the source of the detections was unable to be verified. None of the triplicate or trip blank samples were used for interpretation of the nature and extent of PFAS at RAAF Base Townsville and therefore this trip blank result does not affect the decision-making process for the project. The triplicate samples were generally within the same order of magnitude as the primary samples and therefore the interpretation of the data is not affected.

Data validation procedures employed in the assessment of the field and laboratory quality assurance and quality control (QA/QC) data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of the factual and interpretive reports.

5.0 Screening criteria

Adopted screening criteria references national guidance in the form of the *PFAS National Environmental Management Plan* (NEMP; HEPA, 2020), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. At the time of preparing this report, a number of guidance documents were in circulation in Australia including:

- Heads of Environmental Protection Agencies, 2020. *PFAS National Environmental Management Plan* (NEMP) 2.0 (HEPA, 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 (updated September 2019) (Department of Health, 2019).
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019 (National Health and Medical Research Council (NHRMC), 2019).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (National Environment Protection Council (NEPC), 1999).

The adopted PFAS screening criteria to assess the data generated as part of the monitoring are presented in **Table 10** below. The adopted PFAS screening criteria presented, is based on the Human Health Risk Assessment (HHRA; WSP, 2018a) and Ecological Risk Assessment (ERA; WSP, 2019c), and is also in accordance with the PMAP (Department of Defence, 2020) and the SAQP (AECOM, 2023a).

Table 10 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment/reference
Human health receptors			
Recreational use – surface water	PFOS+PFHxS ¹	2 µg/L	The values are from HEPA (2020).
	PFOA	10 µg/L	<i>All surface water results were compared to these criteria.</i>
Drinking water	PFOS+PFHxS ¹	0.07 µg/L	The values are from HEPA (2020).
	PFOA	0.56 µg/L	<i>All off base groundwater results were compared to these criteria.</i>
Ecological receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from HEPA (2020).
	PFOA	220 µg/L	<i>All surface water and groundwater results were compared to these criteria.</i>

Note:

At the time this report was prepared, no HEPA (2020) endorsed criteria were available for PFAS in sediments.

¹Where the guideline values refer to the sum of PFOS and Perfluorohexane sulfonate (PFHxS), this includes PFOS only, PFHxS only, and the sum of the two (HEPA, 2020).

6.0 Contextual and ancillary information

6.1 Remediation projects

PFAS remediation projects were commenced within Sub-Management Area One in the second half of 2022 and concluding in late-2023. Remediation works are planned to commence in Sub-Management Area Two in 2024. These remediation projects have the potential to change the PFAS concentrations in the source areas and to influence the surface water infiltration and runoff in the local area. The effect of the remediation activities on PFAS concentrations migrating from these areas will be assessed based on the outcomes of the ongoing monitoring results.

6.2 Infrastructure projects on base

The following infrastructure projects were completed in the monitoring period:

- North Queensland Mid Term Refresh (2022 ongoing)
- EST06271 – Commercial Centre Building 53 (November 2022 to December 2023)
- JP9101 PROJECT Phoenix (April 2023 to December 2023)
- EST08426 CEPS Generator Replacement (ongoing)
- AIR555 Development (2023)
- Land 4503 Army Aviation Program of Works (Townsville) (2023 to 2025).

Infrastructure works were identified at the Defence Fuel Installation, in the western portion of Sub-Management Area Two, during the sampling events in 2021. General construction activities were noted as being underway at the base during the January 2022 rainfall sampling event. No extensive earthworks were identified as part of these projects, and this is considered unlikely to impact concentrations or mobility of PFAS in the noted areas. No other infrastructure activities were identified during the monitoring period.

6.3 Extreme weather events

Climatic data for the region is recorded at Townsville Aero (Station 032040), located on-base within Sub-Management Area Two (BOM, 2023). The monitoring period was characterised by wet summers and dry winters. Monthly rainfall for the monitoring period and for the historic dataset dating back to 1941 is presented in **Plate 1** below.

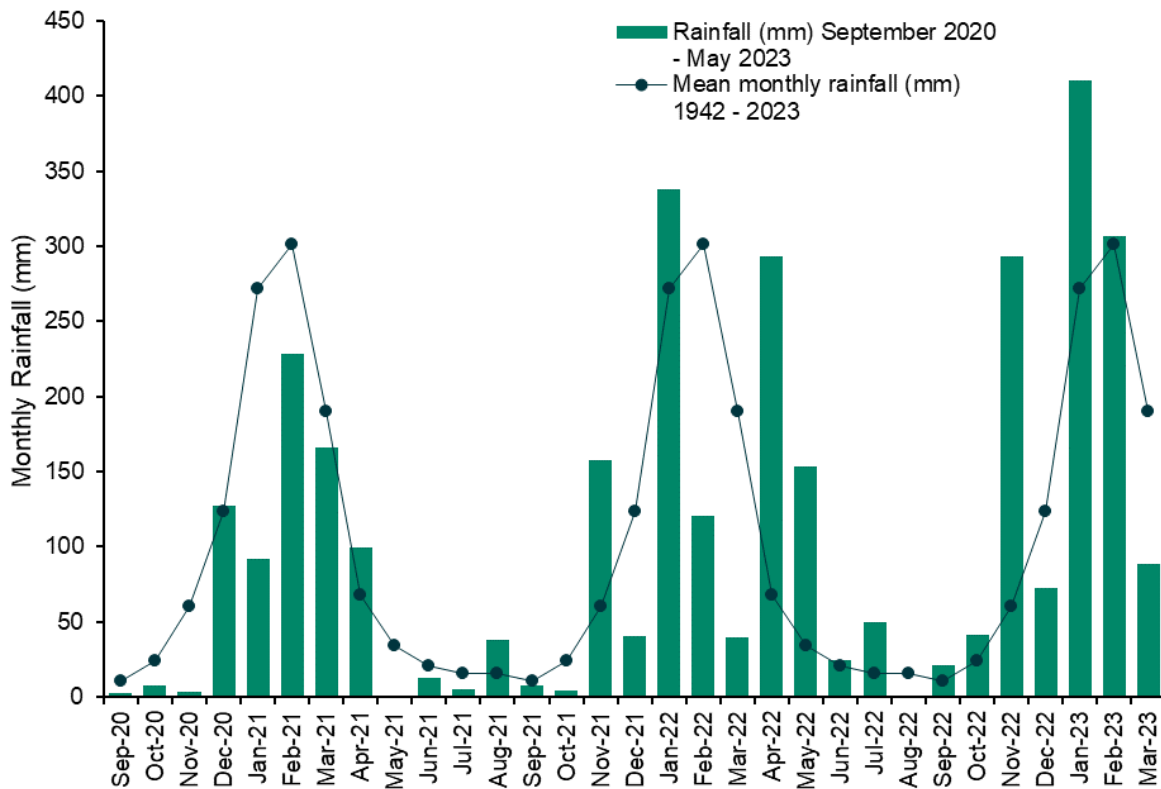


Plate 1 Monthly rainfall data –Monitoring period vs. mean (Station 032040 up to 31/05/2023) (BOM, 2023)

The mean annual rainfall from 1940 to 2023 is 1,140 mm. In the years 2020, 2021 and 2022 the annual rainfall was 788 mm, 759 and 1,448 mm respectively. In 2023, from January to May, the cumulative monthly rainfall was 925 mm which is above average for the same months in 2020 and 2021.

For the sampling events conducted in December 2020 through to October 2021 the rainfall was generally below the long term mean monthly rainfall. From November 2021 to May 2023 rainfall was generally above average. Further details about rainfall triggered events and rainfall experienced during and preceding the sampling events within the monitoring period are detailed below:

- December 2020
 - The December 2020 rainfall sampling event was triggered by 50 mm recorded rainfall on 27 December 2020 which was preceded by 29 mm recorded in the three days prior. A wet weather day (days with greater than 15 mm of rainfall) was experienced during sampling on 28 December 2020.
- February 2021
 - The February 2021 rainfall sampling event was triggered by 61.2 mm of rainfall recorded on 9 February 2021. Rain continued throughout the sampling event, from 9 February to 13 February 2021 with up to 21 mm recorded during sampling on 10 February 2021.
- April 2021
 - The recorded rainfall during April 2021 was 99.6 mm, which is above the annual mean for April (64.3 mm). During the April sampling event, 65.4 mm of rain was recorded with wet weather days on 21 April (with 18 mm), 23 April (with 15 mm) and 24 April (with 15 mm).

- October 2021
 - The recorded rainfall during October 2021 was 4 mm, which is lower than the annual mean of 10 mm. During the October sampling event 2 mm of rainfall was recorded. No wet weather days were experienced during this sampling event.
- January 2022
 - The January 2022 rainfall sampling event took place between 26 and 30 January 2022 and was triggered by 84.8 mm recorded rainfall on 26 January 2022. Rain continued throughout the sampling event, with 172 mm of rain recorded on day 2, 19 mm of rain on day 3, 14 mm of rain on day 4, and 1 mm of rain on day 5.
- April 2022
 - The recorded rainfall during April 2022 was 293.4 mm, which is above the monthly mean for April (67.7 mm). Three wet weather days (days with greater than 15 mm of rainfall) were experienced during the April 2022 sampling event (22 April, 25 April and 26 April 2022).
- October 2022
 - The recorded rainfall during October 2022 was 41.6 mm, which is also above the monthly mean (23.9 mm). No wet weather days were experienced during the October 2022 event, or the December 2022 resampling event (BOM, 2023).
- April and May 2023
 - The 2023 rainfall sampling event took place between 17 and 22 April 2023 and was triggered by 65.4 mm recorded rainfall on 17 April 2023. Rain continued throughout the sampling event, with 6.0 mm of rain recorded on day 2 and 0.2 mm of rain on day 4. The recorded rainfall during April 2023 was 65.4 mm, which is slightly below the monthly mean for April (67.7 mm). No wet weather days were experienced for groundwater sampling undertaken in April and May 2023.

Stream water level monitoring data for Louisa Creek (Station 532032) (Townsville City Council, 2023) for each rainfall event was as follows:

- The average river height during the December 2020 rainfall event sampling was 3.86 m AHD, reaching a maximum of 4.93 m AHD on the third day of sampling (29 December 2020).
- The maximum river height during the February 2021 rainfall event sampling was 5.03 m AHD on the first day of sampling (9 February 2021), with an average of 3.5 m AHD across the sampling event.
- During the January 2022 rainfall sampling event the average stream water level was 4.32 m AHD and reached a maximum of 5.78 m AHD on 27 January 2022 on the second day of sampling.
- The April 2023 rainfall sampling had an average stream water level of 3.51 m AHD and reached a maximum of 3.68 m AHD on 18 April 2023 (the second day of sampling).

A review of the data for this station shows fluctuation in stream water level over a 24-hour period, with up to 0.05 m variation in water level. This gauge is not located in a tidally influenced area. These fluctuations are due to commercial industrial and urban runoff in response to rainfall. This is discussed further in **Section 8.4.1**.

7.0 Monitoring data summary

The sampling events of the monitoring period are detailed in **Section 3.1**. The results are summarised in the following sections and shown on **Figures F4 to F23b** in Appendix A. The results are provided in **Tables T1 to T7** in **Appendix B**. In reviewing the data set for December 2020 to May 2023, AECOM also considered the historical data collected in 2017 as part of the PFAS DSI (WSP, 2018b), in 2018 and 2019 for the seasonal monitoring reports (WSP, 2019a; WSP 2019b) and in September 2019 to 2020 for the OMP (AECOM, 2021b). Seasonal trends and related data are further interpreted in **Section 8.0**.

The statistical method of Mann-Kendall has not been used to identify PFAS trends in groundwater given the site is located in a tropical area which has a climate of wet and dry seasons. There is insufficient data (at least eight monitoring event results) to allow statistical analysis of corresponding seasons (e.g. post wet season to post wet season).

7.1 Groundwater

7.1.1 Groundwater elevation and flow direction

The standing water level (SWL) was measured in a subset of wells representative of conditions across the base to evaluate the groundwater elevations (to m AHD) and flow regime. This gauging activity was completed within a 24-hr period. All wells were gauged prior to sampling. Groundwater elevation ranges within the subset of wells for events of the monitoring period are summarised in **Table 11** below. Full records of the gauging data across the monitoring period are available in each of the respective factual reports included as **Appendix E**.

Table 11 Summary of subset groundwater elevations for the monitoring period

Gauging event	No. wells	Min. SWL (m btoc)	Max. SWL (m btoc)	Min. GWE (mAHD)	Max. GWE (mAHD)
April 2021	25	0.450 (MW002)	2.881 (MW253)	0.731 (MW215)	4.216 (MW223)
October 2021	27	1.082 (MW003)	3.245 (MW239)	0.661 (MW135)	3.917 (MW223)
April 2022	26	0.646 (MW002)	2.918 (MW239)	0.734 (MW215)	4.036 (MW223)
October 2022	26	0.566 (MW002)	3.226 (MW225)	0.626 (MW206)	4.047 (MW232)
April 2023 ¹	28	0.508 (MW135)	2.646 (MW214)	1.017 (MW214)	4.457 (MW232)

Note: SWL = Standing Water level, GWE = Groundwater Elevation, m AHD = meters Australian Height datum, m bTOC = metres below top of casing. ¹ MW002 omitted from summary due to being flooded in April 2023.

Groundwater contours and inferred groundwater flow directions for April 2021, October 2021, April 2022, October 2022 and April 2023 are presented in **Figures F4 to F8 (Appendix A)**, respectively. Off-base groundwater wells to the north of the base were not included in the contours due to potential tidal influences distorting groundwater levels at these locations. The wells west of the base (in the Webb Drive industrial estate) were not included in the contours due to their distance from the base.

Figure F4 shows the inferred local groundwater flow direction during the end of wet season in April 2021 is to the north in the central and western portions of the base and east-northeast in the eastern portion of the base and adjacent suburb of Belgian Gardens.

Figure F5 shows the inferred local groundwater flow direction in the central portion of the base is to the northwest during the 2021 end of dry season event. In the east and northeast portion of the base, the inferred groundwater flow is northeast, in the direction of Rowes Bay, during the dry season. Off-base groundwater wells to the north of the base were not included in the contours due to potential tidal influences distorting groundwater levels at these locations.

Figure F6 shows the inferred local groundwater flow direction during the 2022 end of wet season event is to the north-northwest in the central and western portions of the base and northeast in the eastern portion of the base and adjacent suburb of Belgian Gardens.

Figure F7 shows the inferred local groundwater flow direction in the central portion of the base is to the northwest during the dry season. In the east and northeast portion of the base, the inferred groundwater flow is northeast, in the direction of Rowes Bay, during the dry season of 2022.

Figure F8 shows the inferred local groundwater flow direction during the 2023 end of wet season event is to the north/northwest in the central and western portions of the base and northeast in the eastern portion of the base and adjacent suburb of Belgian Gardens.

Overall groundwater flow direction does not appear to differ significantly between seasons with the overall flow regime radial towards the northwest, north and northeast. This is generally consistent with previous investigations (**Table T1, Appendix B**).

7.1.2 Geochemical Parameters

Groundwater geochemical parameters were measured in the field from the same retrieved HydraSleeve™ immediately following the collection of groundwater samples. The geochemical parameters are summarised in **Table 12** below. Current and historical field parameters are presented in **Table T1, Appendix B**.

Table 12 Summary – Groundwater Geochemical Parameters

Sampling Event	Dissolved Oxygen (DO) (mg/L)	Electrical Conductivity (EC) ($\mu\text{S}/\text{cm}$) ¹	pH (pH units)	Corrected Oxidative Reductive Potential (ORP) (mV) ²	Temperature (°C)
April/May 2021 (Wet Season)					
Minimum	0.14 (MW203)	221.2 (MW269)	3.39 (MW206)	1.5 (MW139)	17.6 (MW300)
Maximum	24.40 (MW268)	84,984.0 (MW255)	8.19 (MW257)	567.1 (MW206)	31.6 (MW016 and MW301)
October 2021 (Dry Season)					
Minimum	0.08 (MW253)	418.0 (MW470)	3.41 (MW206)	13.5 (MW208)	26.4 (MW206)
Maximum	4.10 (MW217)	108,128.0 (MW255)	8.43 (MW054)	500.2 (MW206)	33.6 (MW212)
April 2022 (Wet Season)					
Minimum	0.86 (MW140)	10.4 (MW301)	3.47 (MW206)	13.0 (MW211)	26.3 (MW470)
Maximum	7.45 (MW301)	133,650.0 (MW203)	8.18 (MW090)	432.6 (MW206)	33.4 (MW216)

Sampling Event	Dissolved Oxygen (DO) (mg/L)	Electrical Conductivity (EC) ($\mu\text{S}/\text{cm}$) ¹	pH (pH units)	Corrected Oxidative Reductive Potential (ORP) (mV) ²	Temperature (°C)
October 2022 (Dry Season)					
Minimum	0.19 (MW227)	233.2 (MW233)	3.28 (MW206)	-5.8 (MW467)	24.4 (MW056)
Maximum	7.40 (MW208)	82,555.0 (MW225)	8.96 (MW054)	450.0 (MW206)	31.2 (MW090)
April/May 2023 (Wet Season)					
Minimum	0.58 (MW267)	11.8 (MW233)	4.06 (MW207)	20.1 (MW267)	23.3 (MW239)
Maximum	6.91 (MW470)	138,829.0 (MW203)	8.14 (MW033)	449.9 (MW015)	34.2 (MW016)

Note: 1 – Microsiemens per centimetre; 2 – Oxidation-reduction potential measured in millivolts (mV) and corrected values calculated by the addition of an offset voltage of 194 mV (for reference electrode Ag/AgCl).

The stabilised readings from the monitoring period indicate:

- Poorly to well oxygenated conditions.
- Fresh to saline conditions.
- Acidic to slightly alkaline conditions. The median result was 6.82 and the average result was 6.80, indicating generally neutral conditions.
- Mildly to strongly reducing conditions.

The readings during the reporting period are consistent with previous investigations (WSP, 2019a; WSP, 2019b; AECOM, 2021b). Water quality parameters for temperature, DO and pH were generally consistent between sampling events while EC and ORP were variable.

A summary of the physical characteristics of the groundwater is presented in table below.

Table 13 Summary of groundwater physical properties observations

Sampling event	Observation	Locations
Biannual Sampling – April 2021	Sulfurous odour	MW002, MW004, MW005, MW013, MW015, MW016, MW021, MW034, MW038, MW043, MW046, MW054, MW055, MW056, MW061, MW109, MW110, MW116, MW120, MW122, MW125, MW126, MW135, MW136, MW138, MW139, MW201, MW203, MW205, MW208, MW219, MW221, MW231, MW247, MW248, MW255, MW266, MW267, MW268, MW467
	Putrefied odour	MW211, MW264 and MW300
	Metallic (iron) odour	MW206
	No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells.	
Biannual Sampling – October 2021	Sulfurous odour	MW002, MW013, MW043, MW010, MW116, MW118, MW125, MW135, MW139, MW205, MW213, MW244, MW300, MW467

Sampling event	Observation	Locations
	Groundwater colour was recorded as clear, black/grey, brown, pale yellow, red and orange. No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells.	
Biannual Sampling – April 2022	Sulfurous odour	MW013, MW138, MW203, MW226, MW244 and MW268
	Organic odours	MW118, MW129, MW140, MW206, MW221, MW267 and MW301
	Groundwater colour was typically recorded as light brown/yellow, to clear/low turbidity. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.	
Biannual Sampling – October and December 2022	Organic odours	MW118, MW056, MW135, MW244, MW264, MW267 MW016, MW055, MW002, MW033, MW226, MW227, MW234, MW265, MW213, MW225 and MW467
	Groundwater colour was typically recorded as light brown, low to medium turbidity. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.	
Biannual Sampling – April and May 2023	Sulfurous odour	MW004, MW043, MW057, MW061, MW112, MW118, MW125, MW203, MW232, MW244
	Organic odour	MW002, MW204, MW205, MW206, MW208, MW213, MW221, MW222, MW226, MW266, MW267, MW268
	Biosheen	MW002
	Groundwater colour was typically recorded as light grey to light brown, with low to medium turbidity. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells sampled.	

7.1.3 Groundwater analytical results

All groundwater analytical results for this interpretative report included in the monitoring period are summarised in **Table T2 (Appendix B)**. Monitoring locations are presented in **Figure F2 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figures F10a to Figure F13b** for the events of the monitoring period.

Groundwater monitoring locations have been summarised by Sub-Management Area and PFOS, PFOA and PFOS+PFHxS concentrations recorded during the monitoring period. Sampling Events are summarised in **Table 14**.

Table 15 presents details of the first-time detections of PFOA, PFOS and PFOS+PFHxS, new exceedance of guidelines, and new historical maximum and minimum concentrations detected during the monitoring period.

Table 14 Summary of PFOS, PFOA and PFOS+PFHxS concentrations in groundwater

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > limit of reporting (LOR)	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
Sub-management area one						
April 2021	5	PFOS	0.56 (MW118) – 186 (MW013)	5	N/A ¹	5
		PFOA	0.03 (MW118) – 25.9 (MW126)	5		0
		PFOS+PFHxS	0.95 (MW118) – 291 (MW126)	5		N/A ²
October 2021	5	PFOS	1.62 (MW118) – 248 (MW013)	5	N/A ¹	5
		PFOA	0.14 (MW118) – 45.3 (MW126)	5		0
		PFOS+PFHxS	2.71 (MW118) – 474 (MW126)	5		N/A ²
April 2022	5	PFOS	0.38 (MW118) – 305 (MW013)	5	N/A ¹	5
		PFOA	0.02 (MW118) – 19.6 (MW013)	5		0
		PFOS+PFHxS	0.73 (MW118) – 388 (MW013)	5		N/A ²
October 2022	2	PFOS	0.97 (MW118) – 59.9 (MW013)	2	N/A ¹	2
		PFOA	0.05 (MW118) – 18.4 (MW013)	2		0
		PFOS+PFHxS	1.67 (MW118) – 144 (MW013)	2		N/A ²
April – May 2023	1	PFOS	0.4 (MW118)	1	N/A ¹	1
		PFOA	<0.05 (MW118)	0		0
		PFOS+PFHxS	0.62 (MW118)	1		NA ²
Sub-management area two						
April 2021	16	PFOS	0.29 (MW090) – 10,700 (MW021)	16	N/A ¹	16
		PFOA	<0.01 (MW090) – 803 (MW021)	15		2
		PFOS+PFHxS	0.48 (MW090) – 26,100 (MW021)	16		N/A ²

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > limit of reporting (LOR)	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
October 2021	16	PFOS	0.12 (MW251) – 12,200 (MW021)	16	N/A ¹	15
		PFOA	<0.01 (MW090, MW251) – 1,300 (MW021)	14		1
		PFOS+PFHxS	0.3 (MW251) – 34,100 (MW021)	16		N/A ²
April 2022	16	PFOS	0.12 (MW246) – 4,480 (MW021)	16	N/A ¹	15
		PFOA	<0.01 (MW246, MW251) – 416 (MW021)	14		1
		PFOS+PFHxS	0.21 (MW090) – 12,200 (MW021)	16		N/A ²
October 2022	16	PFOS	0.3 (MW251) – 9,510 (MW021)	16	N/A ¹	16
		PFOA	<0.01 (MW251) – 727 (MW021)	15		1
		PFOS+PFHxS	0.58 (MW251) – 24,500 (MW021)	16		N/A ²
April – May 2023	16	PFOS	0.1 (MW246) – 8,940 (MW032)	16	N/A ¹	15
		PFOA	<0.01 (MW246) – 286 (MW032)	14		1
		PFOS+PFHxS	0.17 (MW246) – 14,700 (MW032)	16		N/A ²
Sub-management area three						
April 2021	8	PFOS	0.12 (MW142) – 1,110 (MW248)	8	N/A ¹	7
		PFOA	<0.01 (MW142) – 41 (MW248)	6		0
		PFOS+PFHxS	0.2 (MW142) – 1,540 (MW248)	8		N/A ²
October 2021	8	PFOS	0.24 (MW142) – 307 (MW125)	8	N/A ¹	8
		PFOA	<0.01 (MW142) – 10.3 (MW248)	7		0
		PFOS+PFHxS	0.39 (MW142) – 387 (MW125)	8		N/A ²

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > limit of reporting (LOR)	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
April 2022	8	PFOS	0.02 (MW142) – 1,140 (MW248)	8	N/A ¹	7
		PFOA	<0.01 (MW142) – 45.2 (MW248)	7		0
		PFOS+PFHxS	0.05 (MW142) – 1,640 (MW248)	8		N/A ²
October 2022	8	PFOS	0.08 (MW009) – 412 (MW248)	8	N/A ¹	7
		PFOA	<0.01 (MW009) – 19.2 (MW248)	7		0
		PFOS+PFHxS	0.69 (MW142) – 654 (MW248)	8		N/A ²
April – May 2023	8	PFOS	0.02 (MW142) – 705 (MW248)	8	N/A ¹	7
		PFOA	<0.01 (MW009) – 25 (MW248)	7		0
		PFOS+PFHxS	0.05 (MW142) – 1020 (MW248)	8		N/A ²
Remaining on-base						
April 2021	33	PFOS	<0.01 – 128 (MW112)	29	N/A ¹	18
		PFOA	<0.01 – 12.9 (MW245)	21		0
		PFOS+PFHxS	<0.01 – 241 (MW112)	33		N/A ²
October 2021	32	PFOS	<0.01 – 92 (MW112)	28	N/A ¹	22
		PFOA	<0.01 – 33.4 (MW245)	17		0
		PFOS+PFHxS	<0.01 – 410 (MW245)	28		N/A ²
April 2022	34	PFOS	<0.01 – 66.8 (MW245)	29	N/A ¹	21
		PFOA	<0.01 – 13.2 (MW245)	21		0
		PFOS+PFHxS	<0.01 – 205 (MW245)	30		N/A ²

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > limit of reporting (LOR)	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
October 2022	31	PFOS	<0.01 – 37.7 (MW245)	28	N/A ¹	23
		PFOA	<0.01 – 8.27 (MW245)	20		0
		PFOS+PFHxS	<0.01 – 129 (MW245)	29		N/A ²
April – May 2023	34	PFOS	<0.01 – 49.1 (MW245)	29	N/A ¹	23
		PFOA	<0.01 – 9.84 (MW245)	21		0
		PFOS+PFHxS	<0.01 – 158 (MW245)	33		N/A ²
Off-base						
April 2021	47	PFOS	<0.01 – 1.08 (MW221)	34	14	8
		PFOA	<0.01 – 0.07 (MW221)	10	0	0
		PFOS+PFHxS	<0.01 – 3.01 (MW206)	33	21	N/A ²
October 2021	23	PFOS	<0.01 – 1.39 (MW221)	21	11	10
		PFOA	<0.01 – 0.13 (MW206)	4	0	0
		PFOS+PFHxS	<0.01 – 12.2 (MW206)	20	13	N/A ²
April 2022	46	PFOS	<0.01 – 0.91 (MW218)	25	11	8
		PFOA	<0.01 – 0.08 (MW206)	7	0	0
		PFOS+PFHxS	<0.01 – 9.56 (MW206)	31	21	N/A ²
October 2022	23	PFOS	<0.01 – 2.19 (MW218)	13	7	3
		PFOA	<0.01 – 0.11 (MW218)	4	0	0
		PFOS+PFHxS	<0.01 – 10.6 (MW218)	15	11	N/A ²

Sampling event	No. sample locations analysed	Compound	Concentration range (µg/L) in reporting period	No. of sample locations with concentrations > limit of reporting (LOR)	No. of sample locations exceeding human health drinking water guideline (HEPA, 2020)	No. of sample locations exceeding freshwater and marine 95% species protection guideline (HEPA, 2020)
April – May 2023	46	PFOS	<0.01 – 2.4 (MW218)	29	14	7
		PFOA	<0.01 – 0.29 (MW262)	8	0	0
		PFOS+PFHxS	<0.01 –9.84 (MW218)	32	20	N/A ²

¹ There is no human health guideline for the current on-base groundwater scenarios given that groundwater is not currently used as a source of drinking water.

² There is no ecological guideline for PFOS+PFHxS in groundwater for the current scenarios.

Table 15 Summary of first-time detections, new exceedance of guidelines, and new historical minimums and maximums for PFOA, PFOS and PFOS+PFHxS in Groundwater

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
Sub-management area one						
April 2021	PFOA	None	None	N/A	MW116 (3.43 µg/L) MW129 (0.97 µg/L)	MW126 (25.9 µg/L)
	PFOS				MW116 (27.4 µg/L) MW129 (12.6 µg/L)	None
	PFOS+PFHxS		N/A		MW116 (47.5 µg/L) MW129 (16.2 µg/L)	
October 2021	PFOA	None	None	N/A	None	MW126 (45.3 µg/L)
	PFOS		N/A			None
	PFOS+PFHxS		N/A			MW126 (474 µg/L)
April 2022	PFOA	None	None	N/A	None	
	PFOS		N/A		MW116 (18.7 µg/L)	
	PFOS+PFHxS		N/A		MW116 (41.6 µg/L)	
October 2022	PFOA	None	None	N/A	None	None
	PFOS		N/A		MW013 (59.9 µg/L)	
	PFOS+PFHxS		N/A		None	
April and May 2023	PFOA	None	None	N/A	MW118 (<0.05 µg/L)	None
	PFOS		N/A		None	
	PFOS+PFHxS		N/A			

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
Sub-management area two						
April 2021	PFOA	None	None	N/A	MW016 (12.7 µg/L) MW110 (4.5 µg/L)	MW005 (25 µg/L) MW021 (803 µg/L) MW081 (369 µg/L) MW139 (57 µg/L)
	PFOS				MW016 (153 µg/L) MW090 (0.29 µg/L) MW110 (109 µg/L) MW246 (0.34 µg/L)	MW021 (10,700 µg/L) MW081 (4,160 µg/L)
	PFOS+PFHxS		N/A		MW016 (400 µg/L) MW046 (216 µg/L) MW090 (0.48 µg/L) MW110 (195 µg/L) MW246 (0.57 µg/L)	MW005 (1,130 µg/L) MW021 (26,100 µg/L)
October 2021	PFOA	None	None	N/A	MW046 (0.12 µg/L) MW139 (12.8 µg/L)	MW005 (37.7 µg/L) MW054 (2.41 µg/L) MW021 (1,300 µg/L)
	PFOS				MW046 (1.93 µg/L) MW139 (230 µg/L)	MW005 (745 µg/L) MW021 (12,200 µg/L) MW054 (124 µg/L) MW055 (200 µg/L)
	PFOS+PFHxS		N/A		MW046 (4.49 µg/L) MW139 (320 µg/L) MW246 (0.54 µg/L) MW251 (0.3 µg/L)	MW005 (1,800 µg/L) MW021 (34,100 µg/L) MW054 (161 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
April 2022	PFOA	None	None	N/A	MW081 (97.5 µg/L)	None
	PFOS				MW081 (828 µg/L) MW246 (0.12 µg/L)	MW005 (817 µg/L) MW138 (476 µg/L)
	PFOS+PFHxS				MW081 (2,870 µg/L) MW246 (0.21 µg/L)	None
October 2022	PFOA	None	None	N/A	MW081 (88.9 µg/L)	None
	PFOS				None	
	PFOS+PFHxS					
April and May 2023	PFOA	None	None	N/A	MW016 (11.6 µg/L) MW054 (0.74 µg/L) MW081 (80.8 µg/L) MW250 (<0.02 µg/L)	MW138 (61.4 µg/L)
	PFOS				MW246 (0.1 µg/L) MW250 (0.26 µg/L)	MW109 (1,510 µg/L) MW138 (1,080 µg/L)
	PFOS+PFHxS				MW246 (0.17 µg/L) MW250 (1.76 µg/L)	MW138 (1,870 µg/L)
Sub-management area three						
April 2021	PFOA	None	None	N/A	None	MW009 (1.11 µg/L)
	PFOS					MW043 (168 µg/L) MW125 (611 µg/L) MW247 (121 µg/L)
	PFOS+PFHxS					MW125 (796 µg/L) MW247 (149 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
October 2021	PFOA	None	None	N/A	None	MW009 (1.34 µg/L) MW125 (2.03 µg/L)
	PFOS		N/A			MW142 (0.24 µg/L)
	PFOS+PFHxS		N/A			None
April 2022	PFOA	None	None	N/A	MW043 (4.49 µg/L)	MW009 (1.36 µg/L)
	PFOS		N/A		None	
	PFOS+PFHxS		N/A		MW043 (117 µg/L)	
October 2022	PFOA	None	None	N/A	MW009 (<0.01 µg/L) MW043 (4.44 µg/L)	MW125 (2.28 µg/L)
	PFOS		N/A		MW009 (0.08 µg/L) MW043 (45.3 µg/L)	MW142 (0.48 µg/L)
	PFOS+PFHxS		N/A		MW009 (1.93 µg/L) MW043 (98.2 µg/L)	MW142 (0.69 µg/L)
April and May 2023	PFOA	None	None	N/A	None	MW009 (1.9 µg/L)
	PFOS		N/A		MW247 (53.8 µg/L)	MW009 (30.1 µg/L)
	PFOS+PFHxS		N/A		MW247 (64.7 µg/L)	MW009 (48.3 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
Remaining on-base						
April 2021	PFOA	MW300 (0.02 µg/L)	None	N/A	MW002 (0.1 µg/L) MW033 (0.64 µg/L) MW061 (0.55 µg/L) MW232 (0.13 µg/L)	MW112 (6.4 µg/L) MW235 (0.28 µg/L)
	PFOS	MW300 (0.06 µg/L)			MW033 (12.6 µg/L) MW223 (5.35 µg/L) MW470 (0.06 µg/L)	MW112 (128 µg/L) MW241 (0.45 µg/L)
	PFOS+PFHxS	MW300 (0.31 µg/L)	N/A		MW033 (14.8 µg/L) MW223 8.73 µg/L) MW470 (0.09 µg/L)	MW112 (241 µg/L)
October 2021	PFOA	None	None	N/A	MW223 (0.15 µg/L) MW244 (0.11 µg/L)	MW002 (0.24 µg/L) MW033 (2.15 µg/L) MW056 (0.14 µg/L) MW245 (33.4 µg/L)
	PFOS				MW224 (0.32 µg/L) MW300 (0.05 µg/L)	MW002 (4.66 µg/L) MW056 (1.5 µg/L) MW245 (81.7 µg/L) MW470 (0.42 µg/L)
	PFOS+PFHxS		N/A		MW223 (8.43 µg/L) MW234 (0.1 µg/L) MW244 (5.29 µg/L) MW300 (0.28 µg/L)	MW002 (8.3 µg/L) MW056 (5.72 µg/L) MW470 (0.49 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
April 2022	PFOA	None	None	N/A	MW223 (0.12 µg/L) MW244 (0.04 µg/L)	MW057 (0.4 µg/L) MW234 (0.3 µg/L) MW241 (0.04 µg/L)
	PFOS		N/A		MW223 (3.18 µg/L) MW224 (0.19 µg/L)	MW061 (21.4 µg/L) MW300 (0.09 µg/L)
	PFOS+PFHxS		N/A		MW223 (4.79 µg/L) MW224 (0.47 µg/L) MW243 (30.4 µg/L) MW244 (2.89 µg/L)	MW300 (0.43 µg/L) MW470 (0.55 µg/L)
October 2022	PFOA	None	None	N/A	MW026 (0.18 µg/L) MW061 (0.41 µg/L) MW243 (0.77 µg/L)	MW234 (0.04 µg/L) MW300 (0.03 µg/L)
	PFOS		N/A		MW033 (9.3 µg/L)	None
	PFOS+PFHxS		N/A		MW026 (15.1 µg/L) MW033 (12.4 µg/L) MW243 (20.5 µg/L)	
April and May 2023	PFOA	None	None	N/A	MW232 (0.12 µg/L)	MW300 (0.04 µg/L)
	PFOS		MW300 (0.13 µg/ equal to the guideline value)		MW002 (1.05 µg/L)	MW061 (24.8 µg/L) MW224 (4.06 µg/L) MW265 (0.73 µg/L)
	PFOS+PFHxS		N/A		MW004 (<0.1 µg/L) MW234 (0.03 µg/L)	MW061 (31.7 µg/L) MW224 (6.58 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
Off-base						
April 2021	PFOA	MW301 (0.01 µg/L) MW467 (0.02 µg/L)	None	None	None	MW205 (0.01 µg/L) MW214 (0.01 µg/L) MW225 (0.02 µg/L) MW256 (0.03 µg/L) MW262 (0.01 µg/L)
	PFOS	MW301 (0.1 µg/L)	MW211 (0.13 µg/L equal to the guideline value) MW256 (0.15 µg/L)		MW263 (0.21 µg/L)	MW205 (0.2 µg/L) MW206 (0.09 µg/L) MW207 (0.02 µg/L) MW208 (0.12 µg/L) MW213 (0.11 µg/L) MW215 (0.02 µg/L) MW216 (0.3 µg/L) MW218 (0.06 µg/L) MW253 (0.06 µg/L) MW262 (0.02 µg/L)
	PFOS+PFHxS	MW301 (0.17 µg/L)	N/A		MW253 (0.09 µg/L) MW262 (0.14 µg/L)	MW240 (0.04 µg/L) MW258 (0.1 µg/L) MW259 (0.11 µg/L) MW261 (0.02 µg/L)
October 2021	PFOA	None	None	None	None	MW206 (0.13 µg/L) MW218 (0.02 µg/L) MW301 (0.03 µg/L)
	PFOS		MW206 (0.15 µg/L) MW218 (0.45 µg/L) MW301 (0.25 µg/L)		MW263 (0.18 µg/L)	MW211 (0.22 µg/L) MW467 (0.38 µg/L) MW471 (0.4 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
	PFOS+PFHxS		N/A		MW263 (0.35 µg/L)	MW211 (0.29 µg/L) MW218 (2.92 µg/L) MW301 (0.3 µg/L)
April 2022	PFOA	None	None	None	MW221 (<0.06 µg/L) MW267 (<0.01 µg/L)	MW218 (0.05 µg/L)
	PFOS			MW264 (0.07 µg/L equal to the guideline value)	MW258 (0.07 µg/L) MW259 (0.07 µg/L) MW260 (<0.01 µg/L) MW261 (<0.02 µg/L) MW263 (0.17 µg/L)	MW212 (0.04 µg/L) MW215 (0.04 µg/L) MW216 (0.41 µg/L) MW218 (0.91 µg/L) MW219 (0.03 µg/L)
	PFOS+PFHxS			N/A	MW215 (0.08 µg/L)	MW220 (<0.01 µg/L) MW258 (0.09 µg/L)
October 2022	PFOA	None	None	None	None	MW218 (0.11 µg/L)
	PFOS				MW221 (0.41 µg/L) MW263 (0.12 µg/L) MW267 (0.08 µg/L) MW467 (0.05 µg/L)	MW218 (2.19 µg/L)
	PFOS+PFHxS				N/A	MW221 (1.51 µg/L) MW263 (0.21 µg/L) MW267 (0.22 µg/L) MW467 (0.05 µg/L)

Sampling Event	Compound	First-time Detection	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline value for drinking water at off base locations (HEPA, 2020)	New historical minimum	New historical maximum ¹
April and May 2023	PFOA	None	None	None	None	MW212 (0.01 µg/L) MW256 (0.04 µg/L) MW262 (0.29 µg/L)
	PFOS		MW262 (0.38 µg/L)	MW215 (0.12 µg/L) MW262 (0.38 µg/L)	MW221 (0.2 µg/L) MW263 (0.1 µg/L) MW267 (0.06 µg/L)	MW212 (0.05 µg/L) MW218 (2.4 µg/L)
	PFOS+PFHxS		N/A	None	MW221 (0.59 µg/L) MW267 (0.16 µg/L)	MW212 (0.06 µg/L) MW215 (0.14 µg/L) MW262 (2.07 µg/L)

¹ New historical maximum does not include first-time detections or new exceedance of guidelines.

Monitoring wells MW300 and MW301 were installed in October 2020 and were sampled for the first-time in April 2021 and therefore the detections of PFOA, PFOS and PFOS+PFHxS are reported as first-time detections. MW300 and MW301 were installed to replace the damaged monitoring wells MW230 and MW209 respectively, where detections of PFOA, PFOS and PFOS+PFHxS were historically recorded as presented in **Table T2, Appendix B**.

The new exceedance of the 95% species protection ecological guideline for freshwater and marine ecosystems in MW301 in April 2021 is consistent with previous results from MW209, which exceeded the guideline in April 2018.

Concentrations of PFOS were detected in MW206, MW218 and MW301 historically. The October 2021 sampling event reported a new exceedance of the 95% species protection ecological guideline for freshwater and marine ecosystems at these locations.

Off-base location MW215 exceeded the human health screening criteria (drinking water) in April 2022. Subsequent monitoring in October 2022 indicated that concentrations had reduced below the nominated screening criteria however concentrations exceeding the human health screening criteria were detected again in April 2023. MW215 is located in the Mundy Creek Catchment.

Off-base location MW262 exceeded the Freshwater and Interim Marine 95% screening criteria for PFOS and the human health screening criteria (drinking water) for sum of PFOS and PFHxS in groundwater in April 2023. MW262 is located in the Webb Drive industrial estate. MW215 and MW262 are not used for drinking water.

Historical groundwater concentrations of PFOA and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by Sub-Management Area, in **Appendix C** for the following locations:

Table 16 Groundwater temporal trend graphs

Graph ID	Monitoring/Management Area	Monitoring wells
1a, 1b, and 1c	Sub-Management Area One	MW013, MW116, MW118, MW126, MW129.
2a, 2b, and 2c	Sub-Management Area Two	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251.
3a, 3b, and 3c	Sub-Management Area Three	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248, MW249.
4a, 4b, and 4c	On-base – Northern section and Northwest of Runway 07/25	MW136, MW140, MW243, MW244
5a, 5b, and 5c	On-base – East and Southeast of Sub-Management Area One	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232
6a, 6b, and 6c	On-base – South of Ingham Rd	MW226, MW227, MW228, MW229
7a, 7b, and 7c	On-base – Balance of Base Area	MW002, MW004, MW056, MW057, MW122, MW135, MW230, MW234, MW235, MW241, MW242, MW245, MW255, MW265, MW300, MW470
8a, 8b, and 8c	Off-base – Town Common Conservation Park	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208
9a, 9b, and 9c	Off-base – Bohle River and Bohle Industrial Estate	MW231, MW237, MW238, MW239, MW240, MW254, MW262
10a, 10b, and 10c	Off-base – Pallarenda	MW233, MW252, MW253
11a, 11b, and 11c	Off-base – Rowes Bay and Belgian Gardens	MW209, MW210, MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW467

Graph ID	Monitoring/Management Area	Monitoring wells
12a, 12b, and 12c	Off-base - Garbutt	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270

7.2 Surface water

7.2.1 Geochemical Parameters

Surface water geochemical parameters were measured prior to collecting samples. Current and historical field observations and field parameters are presented in **Table T3, Appendix B** and summarised in **Table 17** for the monitoring period.

The readings during the reporting period are considered consistent with previous investigations (WSP, 2019a; WSP, 2019b; AECOM, 2021b) with the parameters showing some variability between sampling events influenced by seasonal conditions.

Table 17 Summary – Surface Water Geochemical Parameters

Parameter	DO (mg/L)	EC ($\mu\text{S/cm}$)	pH (pH units)	Corrected ORP (mV) ¹	Temperature (°C)
December 2020 (Rain Event)					
Minimum	1.84 (SW010)	34.3 (SW123)	3.61 (SW125)	143.6 (SW131)	25.6 (SW127)
Maximum	12.9 (SW131)	22,376.0 (SW108)	9.39 (SW108)	551.8 (SW125)	36.3 (SW125)
February/April/May 2021 (Wet Season and Rain Event)					
Minimum	0.6 (SW131)	88.0 (SW121)	6.47 (SW131)	68.6 (SW131)	24.0 (SW127)
Maximum	13.9 (SW132)	49,888.0 (SW109)	10.35 (SW118)	393.3 (SW117)	35.4 (SW132)
September/October 2021 (Dry Season)					
Minimum	1.4 (SW117)	466.3 (SW010)	6.49 (SW110)	9.3 (SW021)	24.7 (SW014)
Maximum	14.6 (SW010)	178,290.0 (SW108)	9.51 (SW010)	380.4 (SW118)	35.1 (SW115)
January/April/May 2022 (Wet Season)					
Minimum	1.6 (SW013)	47.9 (SW010)	6.31 (SW131)	91.0 (SW131)	23.1 (SW013)
Maximum	13.2 (SW119)	100,174.0 (SW108)	10.12 (SW119)	404.1 (SW112)	35.7 (SW108)
October 2022 (Dry Season)					
Minimum	0.85 (SW117)	625.0 (SW123)	6.64 (SW106)	219.9 (SW010)	23.0 (SW127)
Maximum	13.2 (SW120)	56,549.0 (SW208)	9.38 (SW119)	392.3 (SW123)	36.0 (SW106)
April/May 2023 (Wet Season)					
Minimum	1.3 (SW016)	1.0 (SW131)	5.86 (SW016)	47.2 (SW016)	24.7 (SW127)
Maximum	14.5 (SW132)	50,466.0 (SW204)	9.38 (SW125)	404.3 (SW127)	36.0 (SW125)

¹ – Oxidation-reduction potential measured in millivolts (mV) and corrected values calculated by the addition of an offset voltage of 194 mV (for reference electrode Ag/AgCl).

The readings from the monitoring period indicate:

- Slightly to well oxygenated conditions
- Fresh to saline conditions
- Slightly acidic to slightly alkaline conditions
- Moderately reducing to moderately oxidising conditions.

The observations of physical properties of sampled surface water are summarised in Table 18.

Table 18 Summary of surface water physical properties observations

Sampling event	Observation	Locations
Rainfall Event, December 2020	Hydrocarbon sheen	SW017
	Biosheen	SW014, SW108, SW115, SW117, SW121, SW123 and SW131
	Organic odour	SW010, SW116, SW118
	Sulfurous organic odour.	SW131
Rainfall Event, February 2021	Hydrocarbon sheen	SW017
	Biosheen	SW014, SW102, SW116, SW117, SW121, SW125, SW129 and SW131
	Organic odour	SW014, SW102, SW108, SW112, SW115, SW125 and SW127
	Sulfurous odour.	SW102, SW010, SW117 and SW131
Biannual Sampling – April 2021	Biosheen	SW014, SW016, SW102, SW107, SW110, SW111, and SW113
	Organic odour	SW016, SW110, SW123
	Sulfurous, putrefied, or brackish odour.	SW112, SW010, SW113, SW117, SW118, SW210
Biannual Sampling – October 2021	Sulfurous odour	SW014 and SW021
	Biosheen	SW102, SW114 and SW116
	Organic odour	SW111
Rainfall Event, January 2022	Hydrocarbon sheen (and odour on 26 and 27 January 2022)	SW017
	Slight biosheen	SW121, SW109
	Very strong sulfurous odour	SW131
Biannual Sampling – April 2022	Organic odour	SW110, SW114 and SW202 to SW207
	Sulfurous odour	SW117 and SW131
	Biosheen	SW131
	High algal load / presence of organic material	SW111 and SW119

Sampling event	Observation	Locations
Biannual Sampling – October and December 2022	Weak organic odours.	SW131, SW021, SW114 and SW117
	Biosheen	SW208
	High algal load / presence of organic material	SW013, SW131, SW102 and SW120.
Biannual Sampling – April and May 2023	Slight organic odour	SW113
	Sulfurous odour	SW107
	Organic odour (rainfall event sampling)	SW010, SW016, SW116, SW118, SW121, SW125 and SW131
	Biosheen (rainfall event sampling)	SW016, SW102, SW121, SW127
	Foam (rainfall event sampling)	SW127

7.2.2 Surface Water Analytical Results

Historic surface water analytical results are presented in **Table T4 (Appendix B)**. Monitoring locations are presented in **Figure F3 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figure F14a to Figure F18b (Appendix A)**.

Surface water monitoring locations have been summarised by catchment and PFOS, PFOA and PFOS+PFHxS concentrations recorded during the monitoring period, with results presented in **Table 19** below.

Table 19 Summary of PFOA, PFOS and PFOS+PFHxS concentrations in surface water

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health recreational water guideline (HEPA, 2020)	No. of sample locations exceeding 95% species protection ecological guideline (HEPA, 2020)
Bohle River/Louisa Creek/Town common catchment						
December 2020 (rainfall event)	44	PFOA	<0.01 – 5.14 (SW125)	21	0	0
		PFOS	<0.01 – 132 (SW125)	29	14	19
		PFOS+PFHxS	<0.01 – 247 (SW125)	31	16	N/A ¹
February 2021 (rainfall event)	44	PFOA	<0.01 – 1.01 (SW125)	26	0	0
		PFOS	<0.01 – 40.4 (SW125)	36	14	19
		PFOS+PFHxS	<0.01 – 53 (SW125)	36	15	N/A ¹
April 2021	22	PFOA	<0.01 – 0.49 (SW123)	15	0	0
		PFOS	<0.01 – 6.42 (SW123)	21	5	14
		PFOS+PFHxS	<0.01 – 13.2 (SW123)	21	7	N/A ¹
October 2021	20	PFOA	<0.01 – 0.82 (SW123)	8	0	0
		PFOS	<0.01 – 39.8 (SW123)	19	3	5
		PFOS+PFHxS	<0.01 – 48 (SW123)	19	5	N/A ¹
January 2022 (rainfall event)	44	PFOA	<0.01 – 0.64 (SW125)	19	0	0
		PFOS	<0.01 – 76.4 (SW125)	28	10	19
		PFOS+PFHxS	<0.01 – 86.2 (SW125)	28	12	N/A ¹
April 2022	23	PFOA	<0.01 – 0.7 (SW123)	14	0	0
		PFOS	<0.01 – 14.8 (SW123)	21	5	14
		PFOS+PFHxS	<0.01 – 25.1 (SW123)	21	7	N/A ¹

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health recreational water guideline (HEPA, 2020)	No. of sample locations exceeding 95% species protection ecological guideline (HEPA, 2020)
October 2022	19	PFOA	<0.01 – 0.35 (SW123)	6	0	0
		PFOS	0.01 – 10.3 (SW123)	19	4	5
		PFOS+PFHxS	0.01 (SW201) – 14.7 (SW123)	19	5	N/A ¹
April – May 2023 (combined biannual and rainfall event)	59	PFOA	<0.01 – 2.3 (SW125)	35	0	0
		PFOS	<0.01 – 176 (SW125)	51	15	32
		PFOS+PFHxS	<0.01 – 232 (SW125)	55	23	N/A ¹
Mundy Creek catchment						
December 2020 (rainfall event)	45	PFOA	<0.01 – 0.19 (SW117)	40	0	0
		PFOS	0.06 (SW108) – 4.48 (SW132)	45	4	42
		PFOS+PFHxS	0.08 (SW108) – 5.79 (SW132)	45	11	N/A ¹
February 2021 (rainfall event)	45	PFOA	<0.01 – 0.62 (SW132)	41	0	0
		PFOS	<0.01 – 5.79 (SW117)	43	10	41
		PFOS+PFHxS	<0.01 – 9.13 (SW117)	43	20	N/A ¹
April 2021	14	PFOA	<0.01 – 1.2 (SW118)	12	0	0
		PFOS	<0.01 – 10 (SW118)	13	3	12
		PFOS+PFHxS	<0.05 – 17.2 (SW118)	13	5	N/A ¹
October 2021	13	PFOA	<0.01 – 0.68 (SW001 and SW132)	9	0	0
		PFOS	<0.01 – 10.4 (SW001)	12	6	9
		PFOS+PFHxS	0.06 (SW108) – 15.8 (SW001)	13	6	N/A ¹

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health recreational water guideline (HEPA, 2020)	No. of sample locations exceeding 95% species protection ecological guideline (HEPA, 2020)
January 2022 (rainfall event)	45	PFOA	<0.01 – 1.12 (SW132)	36	0	0
		PFOS	0.01 (SW108) – 14.0 (SW132)	45	12	42
		PFOS+PFHxS	0.01 (SW108) – 21.9 (SW132)	45	15	N/A ¹
April 2022	16	PFOA	<0.01 – 1.38 (SW001)	13	0	0
		PFOS	<0.01 – 18.7 (SW001)	15	5	14
		PFOS+PFHxS	0.04 – 28.8 (SW001)	16	7	N/A ¹
October 2022	13	PFOA	<0.01 – 0.28 (SW119)	7	0	0
		PFOS	0.01 (SW208) – 5.37 (SW119)	13	4	8
		PFOS+PFHxS	0.01 (SW208) – 7.88 (SW119)	13	4	N/A ¹
April – May 2023 (combined biannual and rainfall event)	50	PFOA	0.02 (various) – 3.06 (SW132)	50	0	0
		PFOS	0.03 (SW208) – 44.2 (SW132)	50	22	49
		PFOS+PFHxS	0.06 (SW208) – 64.4 (SW132)	50	37	N/A ¹
Three Mile Creek catchment						
December 2020 (rainfall event)	5 (SW102 sampled daily for 5 days)	PFOA	<0.01	0	0	0
		PFOS	0.38 (31/12/2020) – 0.58 (27/12/2020 & 30/12/2020)	5	0	5
		PFOS+PFHxS	0.51 (31/12/2020) – 0.82 (27/12/2020 & 30/12/2020)	5	0	N/A ¹

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health recreational water guideline (HEPA, 2020)	No. of sample locations exceeding 95% species protection ecological guideline (HEPA, 2020)
February 2021 (rainfall event)	5 (SW102 sampled daily for 5 days)	PFOA	0.02 (9/02/2021 & 10/02/2021) – 0.04 (11/02/2021 & 13/02/2021)	5	0	0
		PFOS	0.4 (11/02/2021) – 0.67 (13/02/2021)	5	0	5
		PFOS+PFHxS	0.74 (9/02/2021) – 2.11 (13/02/2021)	5	1	N/A ¹
April 2021	3	PFOA	0.01 (SW107 and SW210) – 0.09 (SW102)	3	0	0
		PFOS	0.06 (SW210) – 0.9 (SW102)	3	0	2
		PFOS+PFHxS	0.14 (SW210) – 4.65 (SW102)	3	1	N/A ¹
October 2021	2	PFOA	<0.01 (SW210) – 0.18 (SW102)	1	0	0
		PFOS	<0.01 (SW210) – 1.18 (SW102)	1	0	1
		PFOS+PFHxS	<0.01 (SW210) – 7.17 (SW102)	1	1	N/A ¹
January 2022 (rainfall event)	5	PFOA	<0.01– 0.01 (30/01/2022)	1	0	0
		PFOS	0.26 (28/01/2022) – 0.63 (26/01/2022)	5	0	5
		PFOS+PFHxS	0.38 (28/01/2022) – 0.78 (26/01/2022 & 30/01/2022)	5	0	N/A ¹
April 2022	3	PFOA	<0.01 (SW210) – 0.11 (SW102)	2	0	0
		PFOS	0.04 (SW210) – 1.7 (SW102)	3	0	2
		PFOS+PFHxS	0.09 (SW210) – 4.61 (SW102)	3	1	N/A ¹

Sampling event	No. samples analysed	Compound	Concentration range (µg/L)	No. of sample locations with concentrations > LOR	No. of sample locations exceeding human health recreational water guideline (HEPA, 2020)	No. of sample locations exceeding 95% species protection ecological guideline (HEPA, 2020)
October 2022	1	PFOA	<0.01 (SW210)	0	0	0
		PFOS	<0.01 (SW210)	0	0	0
		PFOS+PFHxS	<0.01 (SW210)	0	0	N/A ¹
April – May 2023 (combined biannual and rainfall event)	7	PFOA	0.01 (SW210) – 0.07 (SW102 & SW107)	7	0	0
		PFOS	0.08 (SW210) – 1.16 (SW107)	7	0	6
		PFOS+PFHxS	0.18 (SW210) – 3.45 (SW107)	7	5	N/A ¹

¹ There is no ecological guideline for PFOS+PFHxS in groundwater for the current scenarios.

There were no first-time detections in surface water during the monitoring period. During the monitoring period there were new exceedances of adopted freshwater and marine 95% species protection guideline at two locations in April – May 2022 and one location in April 2023. There were also four locations with new exceedances of adopted human health recreational use guideline in April 2023. This has been presented in **Table 20** which summarises new historical minimum and maximum concentrations observed in surface water during the reporting period.

Table 20 Summary of new historical minimums and maximums for PFOS, PFOA and PFOS+PFHxS in Surface Water

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
Bohle River/Louisa Creek/Town common catchment					
December 2020 (rainfall event)	PFOA	None	None	None	SW125 (5.14 µg/L) SW131 (0.35 µg/L)
	PFOS				SW125 (132 µg/L) SW131 (12.5 µg/L)
	PFOS+PFHxS	N/A			SW125 (247 µg/L) SW131 (18.6 µg/L)
February 2021 (rainfall event)	PFOA	None	None	None	SW014 (0.14 µg/L) SW017 (0.03 µg/L) SW127 (0.02 µg/L) SW129 (0.09 µg/L)
	PFOS				None
	PFOS+PFHxS	N/A			
April – May 2021	PFOA	None	None	SW110 (0.06 µg/L) SW201 (<0.01 µg/L)	SW206 (0.02 µg/L)
	PFOS			SW110 (1.09 µg/L)	SW203 (0.03 µg/L) SW204 (0.04 µg/L) SW205 (0.5 µg/L) SW206 (0.34 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
	PFOS+PFHxS	N/A		SW110 (2.21 µg/L)	SW021 (0.42 µg/L) SW203 (0.06 µg/L) SW204 (0.06 µg/L) SW206 (0.58 µg/L)
September – October 2021	PFOA	None	None	None	None
	PFOS				SW123 (39.8 µg/L) SW126 (7.15 µg/L)
	PFOS+PFHxS	N/A			SW123 (48 µg/L) SW126 (9.32 µg/L)
January 2022 (rainfall event)	PFOA	None	None	SW131 (<0.01 µg/L)	None
	PFOS			None	
	PFOS+PFHxS	N/A			
April – May 2022	PFOA	None	None	None	SW203 (0.01 µg/L) SW207 (0.02 µg/L)
	PFOS	SW203 (0.68 µg/L) SW204 (0.24 µg/L)		SW019 (4.69 µg/L) SW021 (0.02 µg/L)	SW206 (0.84 µg/L) SW207 (0.55 µg/L)
	PFOS+PFHxS	None		None	SW203 (0.88 µg/L) SW204 (0.39 µg/L) SW206 (1.28 µg/L) SW207 (0.87 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
October 2022	PFOA	None	None	None	None
	PFOS				SW127 (0.07 µg/L)
	PFOS+PFHxS	N/A			None
April 2023 (combined biannual and rainfall event)	PFOA	None	None	SW110 (0.05 µg/L)	SW016 (0.38 µg/L) SW203 (0.01 µg/L)
	PFOS	SW021 (0.14 µg/L)		SW110 (0.97 µg/L)	SW016 (5.09 µg/L) SW125 (176 µg/L)
	PFOS+PFHxS	None		SW110 (2.07 µg/L)	SW016 (13.9 µg/L) SW021 (0.59 µg/L)
Mundy Creek Catchment					
December 2020 (rainfall event)	PFOA	None	None	SW117 (0.03 µg/L) SW121 (0.01 µg/L) SW132 (0.03 µg/L)	None
	PFOS			SW121 (0.4 µg/L)	SW108 (0.38 µg/L) SW109 (0.59 µg/L) SW121 (1.2 µg/L)
	PFOS+PFHxS	N/A		SW121 (0.62 µg/L)	SW109 (0.85 µg/L)
February 2021 (rainfall event)	PFOA	None	None	None	SW108 (0.07 µg/L) SW121 (0.14 µg/L)
	PFOS				SW010 (2.88 µg/L) SW108 (0.66 µg/L) SW121 (1.91 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
	PFOS+PFHxS	N/A			SW010 (3.47 µg/L) SW108 (1.29 µg/L) SW121 (2.94 µg/L)
April – May 2021	PFOA	None	None	SW119 (0.03 µg/L)	SW109 (0.08 µg/L) SW118 (1.2 µg/L)
	PFOS			SW114 (0.02 µg/L) SW115 (<0.05 µg/L) SW119 (0.47 µg/L)	SW109 (1.05 µg/L) SW118 (10 µg/L)
	PFOS+PFHxS	N/A		SW114 (0.02 µg/L) SW115 (<0.05 µg/L) SW119 (0.73 µg/L)	SW108 (1.32 µg/L) SW109 (1.56 µg/L) SW118 (17.2 µg/L)
September – October 2021	PFOA	None	None	SW010 (<0.01 µg/L)	None
	PFOS			None	
	PFOS+PFHxS	N/A		SW010 (0.14 µg/L)	SW114 (0.43 µg/L)
January 2022 (rainfall event)	PFOA	None	None	SW121 (<0.01 µg/L) SW132 (0.01 µg/L)	SW010 (0.38 µg/L)
	PFOS			SW121 (0.09 µg/L)	SW010 (3.86 µg/L)
	PFOS+PFHxS	N/A		SW121 (0.12 µg/L)	SW010 (5.76 µg/L)
April – May 2022	PFOA	None	None	None	None
	PFOS			SW113 (1.35 µg/L)	
	PFOS+PFHxS	N/A		SW113 (2.9 µg/L)	SW209 (0.76 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
October 2022	PFOA	None	None	None	None
	PFOS			SW106 (0.08 µg/L) SW209 (0.04 µg/L)	
	PFOS+PFHxS	N/A		SW106 (0.25 µg/L)	
April 2023 (combined biannual and rainfall event)	PFOA	None	None	None	SW108 (0.08 µg/L) SW109 (0.1 µg/L) SW114 (0.04 µg/L) SW115 (0.54 µg/L) SW116 (0.14 µg/L) SW117 (2.49 µg/L) SW118 (1.5 µg/L)
	PFOS				SW108 (1.1 µg/L) SW109 (6.13 µg/L) SW114 (0.33 µg/L) SW115 (4.97 µg/L) SW116 (1.4 µg/L) SW117 (23.9 µg/L) SW118 (10.3 µg/L) SW132 (44.2 µg/L)
	PFOS+PFHxS	N/A			SW108 (3.17 µg/L) SW109 (6.92 µg/L) SW116 (3.1 µg/L)

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
Three Mile Creek Catchment					
December 2020 (rainfall event)	PFOA	None	None	None	None
	PFOS				
	PFOS+PFHxS	N/A			
February 2021 (rainfall event)	PFOA	None	None	None	None
	PFOS				
	PFOS+PFHxS	N/A			
April – May 2021	PFOA	None	None	None	SW107 (0.01 µg/L) SW210 (0.01 µg/L)
	PFOS				SW107 (0.21 µg/L) SW210 (0.06 µg/L)
	PFOS+PFHxS	N/A			SW210 (0.14 µg/L)
September – October 2021	PFOA	None	None	None	None
	PFOS				
	PFOS+PFHxS	N/A			
January 2022 (rainfall event)	PFOA	None	None	None	None
	PFOS				
	PFOS+PFHxS	N/A			

Sampling Event	Compound	New exceedance of ecological guideline value for 95% freshwater / marine water species protection (HEPA, 2020)	New exceedance of human health guideline for recreational use (NHMRC, 2019)	New historical minimum	New historical maximum ¹
April – May 2022	PFOA	None	None	None	SW107 (0.04 µg/L)
	PFOS				SW102 (1.70 µg/L) SW107 (0.40 µg/L)
	PFOS+PFHxS	N/A			SW107 (1.73 µg/L)
October 2022	PFOA	None	None	None	None
	PFOS				
	PFOS+PFHxS	N/A			
April 2023 (combined biannual and rainfall event)	PFOA	None	None	None	SW107 (0.07 µg/L)
	PFOS				SW107 (1.16 µg/L) SW210 (0.08 µg/L)
	PFOS+PFHxS	N/A			SW107 (3.45 µg/L)

¹ New historical maximum does not include first-time detections or new exceedance of guideline.

Historical surface water concentrations of PFOA, PFOS and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by catchment, in **Appendix C**. These figures are detailed in **Table 21** below. Surface water temporal trend graphs also include daily rainfall totals.

Table 21 Surface water temporal trend graphs by catchment

Graph ID	Catchment	Surface water monitoring location
13a, 13b, 13c	Bohle River/Louisa Creek/Town Common (on base)	SW013, SW014, SW016, SW017, SW019, SW021, SW110, SW111, SW112, SW120, SW123, SW125, SW126, SW127, SW129, SW131, SW201, SW202, SW203, SW204, SW205, SW206, SW207
14a, 14b, 14c	Bohle River/Louisa Creek/Town Common (off base)	
15a, 15b, 15c	Mundy Creek (on base)	SW001, SW010, SW106, SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW121, SW132, SW208, SW209
16a, 15b, 15c	Mundy Creek (off base)	
17a, 17b, 17c	Three Mile Creek (on & off base)	SW102, SW107, SW210

In addition to PFAS, selected surface water samples collected during the December 2020 and February 2021 rainfall event sampling were analysed for the following geochemical parameters:

- Major ions (sodium, calcium, magnesium and potassium) and anions (chlorine, sulphate, bicarbonate, carbonate)
- Total suspended solids
- Dissolved organic carbon.

These results are presented **Table T5, Appendix B**. Results for major ions for the rainfall events in December 2020 and February 2021 indicate that the cation composition is generally dominated by sodium and anion composition is dominated by chloride and to a lesser degree, sulfate, in all catchments.

7.3 Sediment

7.3.1 Sediment analytical results

Available sediment analytical results are presented in **Table T6 (Appendix B)**. Monitoring locations are presented in **Figure F3 (Appendix A)** and PFOS+PFHxS and PFOA concentration maps are presented in **Figure F19a to Figure F23b (Appendix A)**.

PFOS, PFOA and PFOS+PFHxS concentrations recorded during the monitoring period are summarised in **Table 22** below.

Table 22 Summary of PFOS, PFOA and PFHxS+PFOS Concentrations in Sediment

Sampling event	No. sample locations analysed	Compound	Concentration range (mg/kg)	No. of sample locations with concentrations > LOR
Bohle River/Louisa Creek/Townsville Town Common Conservation Park catchment				
April – May 2021	21	PFOA	<0.0002 – 0.0051 (SD019)	8
		PFOS	<0.0002 – 0.492 (SD126)	18
		PFOS+PFHxS	<0.0002 – 0.515 (SD126)	18
September – October 2021	23	PFOA	<0.0002 – 0.0127 (SD019)	7
		PFOS	<0.0002 – 0.78 (SD019)	20
		PFOS+PFHxS	<0.0002 – 0.924 (SD019)	20

Sampling event	No. sample locations analysed	Compound	Concentration range (mg/kg)	No. of sample locations with concentrations > LOR
April – May 2022	23	PFOA	<0.0002 – 0.0464 (SD013)	7
		PFOS	<0.0002 – 1.64 (SD019)	20
		PFOS+PFHxS	<0.0002 – 2.29 (SD019)	20
October – December 2022	25	PFOA	<0.0002 – 0.159 (SD125)	10
		PFOS	<0.0002 – 3.18 (SD125)	22
		PFOS+PFHxS	<0.0002 – 6.72 (SD125)	22
April – May 2023	23	PFOA	<0.0002 – 0.0083 (SD125)	9
		PFOS	<0.0002 – 9.46 (SD125)	20
		PFOS+PFHxS	<0.0002 – 9.78 (SD125)	20
Mundy Creek catchment				
April – May 2021	13	PFOA	<0.0002 – 0.0021 (SD117)	9
		PFOS	0.0016 (SD108) – 0.139 (SD117)	13
		PFOS+PFHxS	0.0019 (SD108) – 0.149 (SD117)	13
September – October 2021	15	PFOA	<0.0002 – 0.0022 (SD001)	5
		PFOS	0.0004 (SD109) – 0.162 (SD118)	15
		PFOS+PFHxS	0.0004 (SD109) – 0.178 (SD118)	15
April – May 2022	16	PFOA	<0.0002 – 0.0016 (SD118)	5
		PFOS	<0.0004 – 0.138 (SD113)	15
		PFOS+PFHxS	<0.0002 – 0.158 (SD113)	15
October – December 2022	16	PFOA	<0.0002 – 0.0022 (SD113)	4
		PFOS	0.0014 (SD208) – 0.162 (SD113)	16
		PFOS+PFHxS	0.0014 (SD208) – 0.178 (SD113)	16
April – May 2023	14	PFOA	<0.0002 – 0.0047 (SD118)	10
		PFOS	0.0005 (SD208) – 0.254 (SD118)	14
		PFOS+PFHxS	0.0005 (SD208) – 0.283 (SD118)	14
Three Mile Creek catchment				
April – May 2021	3	PFOA	<0.0002 – 0.0004 (SD102)	1
		PFOS	0.0004 (SD210) – 0.0489 (SD102)	3
		PFOS+PFHxS	0.0004 (SD210) – 0.0583 (SD102)	3
September – October 2021	3	PFOA	<0.0002 (SD210) – 0.0026 (SD102)	2
		PFOS	0.0004 (SD210) – 0.219 (SD102)	3
		PFOS+PFHxS	0.0004 (SD210) – 0.309 (SD102)	3

Sampling event	No. sample locations analysed	Compound	Concentration range (mg/kg)	No. of sample locations with concentrations > LOR
April – May 2022	3	PFOA	<0.0002 – 0.003 (SD102)	1
		PFOS	0.0003 (SD210) – 0.129 (SD102)	3
		PFOS+PFHxS	0.0003 (SD210) – 0.16 (SD102)	3
October – December 2022	3	PFOA	<0.0002 – 0.0031 (SD102)	1
		PFOS	0.0004 (SD210) – 0.122 (SD102)	3
		PFOS+PFHxS	0.0004 (SD210) – 0.258 (SD102)	3
April – May 2023	3	PFOA	<0.0002 – 0.0012 (SD102)	2
		PFOS	0.0011 (SD210) – 0.0552 (SD107)	3
		PFOS+PFHxS	0.0011 (SD210) – 0.148(SD102)	3

Table 23 presents details of the first-time detections of PFOS, PFOA and PFOS during the monitoring period.

Table 23 Summary of first-time detections of PFOS, PFOA and PFOS+PFHxS in Sediment

Sampling Event	Compound	First-time Detection ¹	New historical minimum	New historical maximum ²
Bohle River/Louisa Creek/Townsville Town Common Conservation Park catchment				
April – May 2021	PFOA	None	None	SD111 (0.0007 mg/kg)
	PFOS		SD125 (0.0534 mg/kg)	SD016 (0.067 mg/kg) SD111 (0.0711 mg/kg) SD126 (0.492 mg/kg) SD203 (0.0007 mg/kg) SD206 (0.003 mg/kg)
	PFOS+PFHxS		SD110 (0.0326 mg/kg) SD125 (0.0782 mg/kg)	SD016 (0.075 mg/kg) SD111 (0.0856 mg/kg) SD126 (0.515 mg/kg) SD203 (0.0007 mg/kg) SD206 (0.003 mg/kg)
September – October 2021	PFOA	None	SD123 (<0.0005 mg/kg)	SD202 (0.0003 mg/kg)
	PFOS		None	SD111 (0.114 mg/kg) SD129 (0.0023 mg/kg) SD127 (0.002 mg/kg) SD203 (0.0018 mg/kg) SD204 (0.0027 mg/kg)
	PFOS+PFHxS			SD111 (0.123 mg/kg) SD127 (0.0022 mg/kg) SD129 (0.0023 mg/kg) SD203 (0.0018 mg/kg) SD204 (0.0027 mg/kg)
April – May 2022	PFOA	None	None	SD111 (0.001 mg/kg)
	PFOS			SD203 (0.0019 mg/kg) SD204 (0.0036 mg/kg) SD206 (0.0056 mg/kg)

Sampling Event	Compound	First-time Detection ¹	New historical minimum	New historical maximum ²
	PFOS+PFHxS			SD203 (0.0019 mg/kg) SD204 (0.0036 mg/kg) SD206 (0.0059 mg/kg)
October – December 2022	PFOA	SD120 (0.0002 mg/kg)	None	None
	PFOS	None	SD110 (0.0119 mg/kg)	SD013 (0.669 mg/kg) SD014 (0.0134 mg/kg) SD120 (0.0029 mg/kg) SD125 (3.18 mg/kg) SD203 (0.0024 mg/kg)
	PFOS+PFHxS		SD001 (0.0128 mg/kg) SD110 (0.0138 mg/kg) SD132 (0.0093 mg/kg)	SD013 (0.75 mg/kg) SD014 (0.0149 mg/kg) SD120 (0.0033 mg/kg) SD125 (6.72 mg/kg) SD203 (0.0024 mg/kg)
April – May 2023	PFOA	SD204 (0.0002 mg/kg) SD206 (0.0003 mg/kg)	SD016 (0.0013 mg/kg)	SD132 (0.0034 mg/kg)
	PFOS	None	None	SD016 (0.248 mg/kg) SD125 (9.46 mg/kg) SD203 (0.0034 mg/kg) SD204 (0.0053 mg/kg) SD206 (0.0064 mg/kg)
	PFOS+PFHxS			SD016 (0.278 mg/kg) SD125 (9.78 mg/kg) SD203 (0.0034 mg/kg) SD204 (0.0053 mg/kg) SD206 (0.0068 mg/kg)
Mundy Creek Catchment				
April – May 2021	PFOA	None	SD132 (0.0002 mg/kg)	SD109 (0.001 mg/kg)
	PFOS		SD132 (0.0087 mg/kg)	SD109 (0.0086 mg/kg)
	PFOS+PFHxS		SD132 (0.0096 mg/kg)	SD109 (0.0093 mg/kg)
September – October 2021	PFOA	None	None	None
	PFOS			
	PFOS+PFHxS			
April – May 2022	PFOA	None	None	None
	PFOS			SD132 (0.025 mg/kg) SD209 (0.0322 mg/kg)
	PFOS+PFHxS			SD132 (0.0298 mg/kg) SD209 (0.0331 mg/kg)
October – December 2022	PFOA	None	SD001 (<0.0002 mg/kg) SD132 (<0.0002 mg/kg)	None
	PFOS		SD001 (0.0116 mg/kg) SD119 (0.003 mg/kg) SD132 (0.0086 mg/kg)	
	PFOS+PFHxS		SD119 (0.003 mg/kg) SD132 (0.0093 mg/kg)	

Sampling Event	Compound	First-time Detection ¹	New historical minimum	New historical maximum ²
April – May 2023	PFOA	SD108 (0.0002 mg/kg)	None	None
	PFOS	None	SD119 (0.0006 mg/kg) SD208 (0.0005 mg/kg)	SD010 (0.0364 mg/kg) SD108 (0.0143 mg/kg) SD118 (0.254 mg/kg) SD132 (0.108 mg/kg)
	PFOS+PFHxS		SD119 (0.0006 mg/kg) SD208 (0.0005 mg/kg)	SD108 (0.018 mg/kg) SD132 (0.133 mg/kg)
Three Mile Creek Catchment				
April – May 2021	PFOA	None	None	None
	PFOS			
	PFOS+PFHxS			
September – October 2021	PFOA	SD107 (0.0003 mg/kg)	None	None
	PFOS			SD102 (0.219 mg/kg) SD107 (0.023 mg/kg)
	PFOS+PFHxS			SD102 (0.309 mg/kg) SD107 (0.0322 mg/kg)
April – May 2022	PFOA	None	None	None
	PFOS			
	PFOS+PFHxS			
October – December 2022	PFOA	None	None	None
	PFOS			
	PFOS+PFHxS			
April – May 2023	PFOA	None	None	SD107 (0.0006 mg/kg)
	PFOS			SD107 (0.0552 mg/kg)
	PFOS+PFHxS			SD107 (0.07 mg/kg)

Note:

1. First time detections do not include first time testing locations.
2. New historical maximum does not include first-time detections.

Historical sediment concentrations of PFOA, PFOS and PFOS+PFHxS have been displayed graphically on temporal trend graphs, by catchment, in **Appendix C**. These figures are detailed in **Table 24** below. Surface water temporal trend graphs also include daily rainfall totals.

Table 24 Sediment temporal trend graphs by catchment

Graph ID	Catchment	Sediment monitoring location
18a, 18b, 18c	Bohle River/Louisa Creek/Town Common (on base)	SD013, SD014, SD016, SD017, SD019, SD021, SD110, SD111, SD112, SD120, SD123, SD125, SD126, SD127, SD129, SD131, SD201, SD202, SD203, SD204, SD205, SD206, SD207
19a, 19b, 19c	Bohle River/Louisa Creek/Town Common (off base)	
20a, 20b, 20c	Mundy Creek (on base)	SD001, SD010, , SD106, SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD121, SD132, SD208, SD209
21a, 21b, 21c	Mundy Creek (off base)	
22a, 22b, 22c	Three Mile Creek (on & off base)	SD102, SD107, SD210

8.0 Discussion/interpretive analysis

8.1 Hydrogeology

The SWLs were measured in the groundwater monitoring wells to evaluate the groundwater elevations (to m AHD). Depth to groundwater measurements and the inferred potentiometric contours for the Management Area are presented in the factual reports in **Appendix E** and summarised in **Section 7.1.1**.

During the monitoring period, there were three sampling events which targeted the end of the wet season (April 2021, 2022 and 2023) and two sampling events that targeted the end of the dry season (October 2021 and 2022). In 2021, there was an average decrease of 0.69 m in groundwater elevation between the April and October monitoring rounds in the shallow monitoring wells, screened in the Quaternary alluvium aquifer. In 2022, there was an average decrease of 0.21 m in groundwater elevation between the April 2022 and October 2022 monitoring events in the shallow monitoring wells. Between the October 2022 and April 2023 sample events there was an average increase of 0.57 m in groundwater elevation, which demonstrates the response to rainfall during the wet season when the water level rises due to infiltration of rainwater recharging the aquifer.

The one deep monitoring well (MW140) showed a decrease of 0.74 m in October compared to elevations in April 2021, although there was only a decrease of 0.08 m in October 2022 compared to elevations in April 2022. Similarly, this well showed an increase of 0.69 m in groundwater elevation between the October 2022 and April 2023 event. The characteristics of the aquifer in the screened interval of MW140 are unknown. This well was installed prior to the DSI (WSP, 2018b) and no bore logs are available.

Below average rainfall was recorded for most months in 2021, with above average rainfall recorded in April and August 2021. A decrease in groundwater elevation in line with decreased rainfall is evident in the shallow monitoring wells for the 2021 events. As discussed in **Section 6.3** the rainfall during the events of 2022 to 2023 (AECOM, 2021b) was generally above the historic average (BOM, 2023). The increased average rainfall may have resulted in the reduced groundwater table fluctuation observed during 2022 and 2023 when compared to 2021 data.

Inferred groundwater flow directions in the shallow aquifer for sample events during the monitoring period were consistent with the flow presented in previous investigations (WSP, 2018b), with groundwater from the central and western portions of the base flowing north and northwest and groundwater from the northeast portion of the base flowing northeast to Rows Bay.

8.2 Groundwater Results

Groundwater results for PFOA and PFOS+PFHxS compared to assessment criteria are presented in **Table T2** in **Appendix B** and shown in **Figures F9a to F13b, Appendix A**.

The highest PFAS concentrations in the monitoring period were detected adjacent to the fire station, a previously identified source area, consistent with findings from the previous monitoring (AECOM, 2021b). The maximum concentrations of PFOS+PFHxS in the monitoring period were as follows:

- Sub-Management Area One: 388 µg/L at MW013 in April 2022 and 474 µg/L at MW126 in October 2021 which were higher than April 2021 wet season results. It is noted that MW116, MW129, and MW126 in this area were decommissioned prior to the dry season sampling round in October 2022 due to the remediation activities undertaken in this area.
- Sub-Management Area Two: 34,100 µg/L at MW021 in October 2021, which were higher than April 2021 wet season results.
- Sub-Management Area Three: 1,640 µg/L at MW248 in April 2022.

PFOS, PFOA or PFHxS concentrations were detected in monitoring wells down-hydraulic gradient from the identified PFAS source areas listed above and suggest that the groundwater impacts are associated with these areas.

The plume extents are consistent with that which was presented for the previous monitoring period (AECOM, 2021b).

8.2.1 Sub-Management Area One

Historical concentrations of PFOA and PFOS+PFHxS in Sub-Management Area One are presented in **Table T2 (Appendix B)** and graphically in **Graph 1a and 1b (Appendix C)**.

Both PFOA and PFOS+PFHxS concentrations in Sub-Management Area One are within historical ranges, with the exception of MW126. PFAS concentrations at MW126 had progressively been decreasing since 2017, however concentrations of PFOA and PFOS+PFHxS increased across both monitoring events during 2021, recording a new historical maximum for PFOS+PFHxS (474 µg/L) in October 2021. This location is within a source area which is listed as a former fire training area. Concentrations of PFOS+PFHxS decreased to 19 µg/L in April 2022 before this well was decommissioned and no further samples have been collected at this location.

As mentioned in **Section 6.1**, remediation activities commenced within this Sub-Management Area in the second half of 2022 to address PFAS sources related to the former fire training area. These activities have led to the decommissioning of monitoring wells MW116, MW126, and MW129. MW013 was unable to be accessed for the April 2023 sampling round, however concentrations at this location appear to be decreasing since the commencement of monitoring in 2017. No direct correlation between rainfall and PFAS concentrations in the wells in Sub-Management Area One was observed. The loss of the wells in this area presents a data gap.

Based on the historical data (**Table T2, Appendix C**), the lateral extent of the PFAS plume in groundwater, does not appear to have changed compared to the lateral extent presented in the 2018 DSI, 2019 seasonal events and the 2020 OMP sampling events (WSP, 2018b; WSP, 2019a; WSP, 2019b; AECOM, 2020; AECOM, 2021g). Some decreasing concentrations were observed in down-gradient wells MW026, MW033 and MW118. Further monitoring following the completion of the remedial and validation works would be required to confirm the contamination status of this area moving forward.

8.2.2 Sub-Management Area Two

Historical concentrations of PFOA, PFOS and PFOS+PFHxS in Sub-Management Area Two are presented in **Table T2 (Appendix B)** and graphically in **Graphs 2a and 2b (Appendix C)**. Sub-Management Area Two has historically reported the highest concentrations across the base.

Concentrations of PFOA, PFOS and PFOS+PFHxS in Sub-Management Area Two are generally stable at all locations, with results within historic ranges except for MW005, MW109, MW021 and MW138 as outlined below:

- At MW005 (near the fuel farm) there was an increase in PFOS concentrations in April 2022 (817 µg/L, greater than the historical maximum 745 µg/L recorded in October 2021, the previous monitoring round but within the same order of magnitude), although concentrations decreased during the subsequent October 2022 (to 692 µg/L) and April 2023 (804 µg/L) monitoring round.
- At MW021, PFOA increased from 803 µg/L in April 2021 to 1,300 µg/L in October 2021. Increasing concentrations of PFOS+PFHxS from 26,100 µg/L in April 2021 to 34,100 µg/L in October 2021 were also noted at this location. This monitoring well is located within the fuel transport compound adjacent to the fire station, a previously identified source of PFAS. The reason for the sudden increase at this location is unknown and requires further monitoring as part of the ongoing monitoring program to evaluate localised migration pathways. The PFAS concentrations reported do not appear to correlate with the highest rainfall periods. Concentrations have indicated a fluctuating downward trend to the latest sampling event concentrations reported for April 2023 which reported PFOA at 286 µg/L and PFOS+PFHxS at 14,700 µg/L. Concentrations of PFOS+PFHxS also increased at upgradient well MW139 in April 2021, however, decreased to a historical low in October 2021. Concentrations in downgradient wells MW015 and MW016 have remained within the historical range.
- At MW109 there was an increase in PFOS concentrations in April 2023 (1,510 µg/L, greater than historic maximum 1,360 µg/L recorded in June 2017). The reason for the increase requires further

monitoring to identify potential trends and no additional contributions to the legacy PFAS source in this area were identified at the time of the sampling in April 2023.

- At MW138 in April 2023 there was an increase in PFOS, PFOA, and PFOS+PFHxS (1,080 µg/L, 61.4 µg/L, and 1,870 µg/L respectively) above the historic maximum concentrations of these analytes. MW138 is located centrally within Sub-Management Area Two (Former Fire Training Area). The groundwater elevation at this location between October 2021 and April 2023 changed by 0.461 m AHD whereas over the period from August 2017 to April 2021 a difference in groundwater elevation of 0.811 m AHD was reported. It is possible that the higher groundwater elevation has resulted in potential leaching of PFAS in soils in this source area. Further monitoring is required to assess if groundwater elevations may be contributing to the mobilisation of PFAS at this source area.

The new maximum results reported at MW138 and MW109 and fluctuating concentrations at other wells within Sub-Management Area Two indicate that further monitoring and investigation combined with remedial actions are required to address the PFAS sources in this area. It is also acknowledged that this Sub-Management Area is identified for remediation works during 2023.

There is some seasonality in concentrations of PFOA, PFOS and PFOS+PFHxS across Sub-Management Area Two, with concentrations seen to fluctuate in both increasing and decreasing directions during dry and wet season sampling events at several locations. Examples of increased concentrations at the end of dry season sampling is seen at MW054, MW109, MW110, MW246, and MW250. Examples of increased concentrations at the end of wet season sampling are seen at MW139 and MW251. There does not appear to be a consistent response across Sub-Management Area Two to changes in seasonal conditions.

Although concentrations of PFOS in MW005, MW109 and MW138 have increased, changes to the lateral extent of the PFAS plume have not been observed during the monitoring period compared to that presented in the 2018 DSI, 2019 seasonal events and 2020 and 2020 OMP sampling events (WSP, 2018b; WSP, 2019a; WSP, 2019b; AECOM, 2020; AECOM, 2021g).

8.2.3 Sub-Management Area Three

Historical concentrations of PFOA, PFOS, and PFOS+PFHxS in Sub-Management Area Three are presented in **Table T2 (Appendix B)** and graphically in **Graph 3a and 3b (Appendix C)**.

PFAS concentrations in groundwater in Sub-Management Area Three are generally stable at all locations, with the exception of MW248 which displayed trends consistent with the 2020 AIR (AECOM, 2021b), showing increases of PFOA and PFOS+PFHxS following wet season rainfall and a reduction in concentrations over the dry season. This seasonality could potentially indicate that residual PFAS are present within soils located above the groundwater table being mobilised through rainfall infiltration.

New historical maximums of PFOS, PFOS+PFHxS and PFOA were detected at MW009 during the monitoring period. Concentrations of PFAS at MW009 appear to be demonstrating an increasing concentration trend, however the results are still within the same order of magnitude as historical results. All monitoring results at MW009 including the current monitoring period exceed the adopted ecological guidelines, except October 2022.

New historical maximums of PFOS and PFOS+PFHxS were detected at MW125 in April 2021, an order of magnitude above historical results with concentrations reducing in October 2021 and further reducing in 2022. By April 2023, the wet season results had reduced by two orders of magnitude and were reported within the historical range of concentrations for this location. Some response to seasonality was observed with results tending to be higher in response to dry season conditions and lower concentrations in response to wet season conditions. This response to seasonality is not consistent in all wells across Sub-Management Area Three.

At MW142 new maximum concentrations of PFOS and PFOS+PFHxS were detected in October 2021 and again in October 2022 however the results were still within the same order of magnitude of the previous historical maximum for the location. By April 2023, the concentrations of PFAS at this location were again reported close to the detection limits. Of all groundwater monitoring locations within the Sub-Management area, the concentration range of MW142 is the lowest.

The inferred groundwater flow direction across the area is towards the north-west, and as such MW125 is upgradient of MW248 however MW009 and MW043 are located between these two wells. New historical maximum concentrations of PFOS were reported in MW009 while concentrations at MW043 were reported within the historical range.

Seasonal fluctuations in PFAS, PFOS and PFOS + PFHxS concentrations are not consistent across all wells within this Sub-Management Area however, where seasonality is observed, the same trends are present, at the same locations, each sampling round, which potentially indicates that residual PFAS are present within soils located above the groundwater table which are mobilised through rainfall infiltration.

The lateral extent of the PFAS plume does not appear to have changed during the monitoring period compared to that presented in the 2018 DSI, 2019 seasonal events, and 2020 OMP sampling events (WSP, 2018b; WSP, 2019a; WSP, 2019b; AECOM, 2020; AECOM, 2021g).

8.2.4 Other On-Base Wells

Concentrations of PFOS and PFOA at MW056 (near the northwestern base boundary) increased by an order of magnitude in October 2021 however concentrations decreased in the subsequent three rounds of monitoring, by an order of magnitude.

New historical maximum concentrations of PFOS and PFOA were reported one order of magnitude higher than the 2018 result at MW112 (in the central portion of the base between Sub-Management Area Two and Three) in April 2021, however the concentrations consistently decreased in all subsequent monitoring rounds. New historical maximum concentrations of PFOS and PFOA were reported at MW245 (north of MW112 and west of Sub-Management Area Two) within the same order of magnitude as previous results and concentrations have decreased since. A new historical maximum concentration of PFOS was also reported at MW241 (in the northeastern corner of the base) in April 2021 and concentrations at this location have continued to fluctuate within the same order of magnitude. New historical maximum concentrations of PFOS were reported at MW470 (in the northeastern corner of the base) in October 2021, however the result is within the same order of magnitude as previous concentrations and PFOS results have since decreased to within the historical range reported at this location. Nearby wells have similar concentrations and therefore the plume extent remains unchanged.

New historical maximum concentrations of PFOS were reported at MW061 and MW224 (in the southeast corner of the base), MW265 (near the Ordnance Loading Areas) in May 2023, however the result is within the same order of magnitude as previous concentrations.

A new historical maximum concentration of PFOS was reported at MW300 (southwestern base boundary) in May 2023 that was equal to the ecological criteria. Concentrations at this location have been steadily increasing since the well was installed in 2021 however the concentrations reported are still below those historically reported for MW230 which was replaced by MW300, therefore the plume extent remains unchanged.

Concentrations at MW255 (on the western base boundary) have continued to decrease since December 2018.

Based on the above discussion, the distribution of PFAS has not changed for the on-base wells.

8.2.5 Off-Base Wells

Concentrations of PFOS+PFHxS and PFOA are generally consistent with historical results. Minor increases in concentrations over the previous maximums are within the expected variability.

New historical maximum concentrations of PFOS were reported at MW205 in April 2021 and in MW206 in October 2021. Both wells are located in the Town Common, north of the base. Concentrations decreased to below the detection limit in April and October 2022 and were most recently detected again in April 2023. The results are an order of magnitude lower previous concentrations.

MW211 (located at the eastern extent of the Three Mile Creek Catchment, southeast of the former Rowes Bay landfill) was equal to the ecological guideline in April 2021 for 95% species protection in freshwater for PFOS and a new maximum concentration for PFOS was reported in October 2021.

MW213 (located at the northeastern extent of the Mundy Catchment) reported a new maximum concentration for PFOS+PFHxS and PFOS in April 2021. MW214 (located at the northeastern extent of

the Mundy Catchment, near MW213) reported a new maximum concentration for PFOS+PFHxS in April 2023. MW256 (located cross gradient to MW214 and MW215) exceeded the 95% species protection ecological guideline in freshwater for PFOS in April 2021. Concentrations at this location have since decreased below the nominated ecological guideline.

MW215 (located upgradient of MW213 and MW214) exceeded the human health drinking water guideline in April 2022 and a new maximum concentration for PFOS was reported in April 2023. A new maximum concentration was also reported at MW216 in April 2022. Concentrations in the northeastern portion of the Mundy Creek Catchment were generally within the same order of magnitude therefore the distribution of PFAS has not changed for the off-base wells in the Mundy Creek Catchment.

Increasing concentrations and new exceedances of the adopted ecological guideline for PFOS were reported from October 2021 onwards at MW218 (located centrally within the Mundy Creek Catchment, and hydraulically down gradient from Sub-Management Area One and Two). The PFOS+PFHxS concentrations in April 2021 was 0.42 µg/L and then increased an order of magnitude to 2.92 µg/L in October 2021. Concentrations have stabilised within the same order of magnitude in the current monitoring period with a new historical maximum concentration of PFOS+PFHxS of 10.6 µg/L reported in December 2022. MW221 located in the same area as MW218, has historically detected PFAS within the same order of magnitude as the new maximum concentrations at MW218 and both locations are within the historical identified extent of the PFAS plume. Observations were similar to an increase in concentrations in nearby surface water (SW117) and all down gradient concentrations in groundwater concentrations were generally within the same order of magnitude as historical ranges. The plume geometry also remains unchanged.

MW253 (located in Pallarenda, in the Three Mile Creek Catchment) reported a new exceedance of the human health drinking water guideline April 2021 and concentrations at this location have been fluctuating within the same order of magnitude, below the human health drinking water guideline since and the concentrations appear to have stabilised.

MW262 had new exceedances of the human health screening levels in April 2021 and ecological screening levels in April 2023. MW262 is located in the Webb Drive industrial precinct in the Nohle River/Louisa Creek Catchment. MW262 has historically detected PFAS, but the latest April 2023 results represent an order of magnitude increase. As PFAS have historically been detected at this location, the plume geometry is unchanged.

MW301 (near the Rowes Bay golf course and dog off-leash beach) reported new exceedances of the adopted ecological guideline during the October 2021 sampling event. Concentrations have stabilised within the same order of magnitude. MW301 is hydraulically downgradient of the former Rowes Bay landfill and northern extent of the base where increased concentrations have been reported within the monitoring period at MW470, MW467, MW471 and nearby on-base wells.

8.2.6 Summary

Overall, the groundwater monitoring results indicate the PFAS plume extent is consistent with the previous monitoring period (AECOM, 2021b).

Repairs to damaged wells and replacement of lost wells were carried out during the current monitoring period. Some well maintenance recommended following the April and May 2023 monitoring event remains outstanding heading into the next monitoring period.

8.3 Rainfall Event Surface Water Results

Rainfall event surface water sampling locations are presented in **Figure F3, Appendix A**.

Non-PFAS sampling was conducted during the rain event sampling of December 2020 and February 2021, and therefore is not representative of static surface water conditions across the Management Area. Comparison of the water chemistry results from the DSI (WSP, 2018b) to results from the rain event sampling shows differences in water chemistry due to freshwater inflow into the catchment and possible tidal influences within the Mundy Creek Catchment at SW116 on days 2 and 3 of the February 2021 rain event. Increases in chloride and magnesium concentrations at SW116 on days 2 and 3 of the February 2021 rain event were shown to be decreasing by day 5 of the rain event. SW129 within the Bohle River exhibited higher concentrations of chloride and sodium on days 1 and 2 of the December 2020 rain event decreasing by two orders of magnitude by day 5 of the rain event. The change in

concentrations over the course of the rain event demonstrates the influence of large amounts of rainfall on the hydrochemistry of surface waters within the Management Area.

Rainfall event sampling in April 2023 at location SW127 observed foam at the surface of the water body, however, concentrations of PFAS were close to the laboratory LOR. The observed foam may be a result of another environmental influence. Rainfall event sampling at SW010, SW121 and SW132 detected concentration spikes during the targeted five-day sampling events. Locations SW010, SW121 and SW132 detected new maximum concentrations of PFOA, PFOS, and PFOS+PFHxS during rainfall event sampling in the monitoring period, although within the same order of magnitude as historical results.

Rainfall sampling event concentrations have been observed to exceed bi-annual wet and dry season sample event concentrations. These spikes are expected, as the events are designed to target the first flush of contaminants following the dry season.

8.4 Regular Surface Water Results

Concentrations of PFOS+PFHxS in surface water generally decreased with increasing distance from the base, as shown in **Figure F14a** to **Figure F18b** in **Appendix A**.

Trends in surface water results collected during the scheduled biannual sampling events are discussed by catchment in **Sections 8.4.1** to **8.4.3** below.

8.4.1 Bohle River/Louisa Creek/Town Common Catchment

PFOA and PFOS+PFHxS concentrations in on-base locations within the Bohle River/Louisa Creek/Town Common catchment have continued a general stable trend, except for SW123 (in the northwestern corner of Sub-Management Area Three) which showed an increase in PFAS concentrations in October 2021, with PFOS+PFHxS increasing to a historical maximum of 48 µg/L (**Graph 13a** and **13b**, **Appendix C**). The historical maximum is within the same order of magnitude as historical results and concentrations have since decreased in the April 2023 monitoring round. Ongoing fluctuations of concentrations are observed at this location in response to rainfall with higher concentrations generally recorded towards the end of the rain event.

PFOA, PFOS and PFOS+PFHxS concentrations in on-base locations within the Bohle River/Louisa Creek/Town Common catchment have continued a generally stable trend, except locations SW016, SW125 and SW126. New maximum concentrations at SW126 in October 2021 and SW016 and SW125 in April 2023 are within the same order of magnitude as historic results. The higher concentrations in October 2021 for SW126 were not replicated in the October 2021 sediment results however a new historical maximum was reported at SD126 in April 2021 which may have affected the October 2021 surface water results. Surface water locations SW016 and SW125 have co-located sediment samples SD016 and SD125 respectively which detected new maximum concentrations in the monitoring period with April 2023 also being the most elevated results. Locations SW/SD016 and SW/SD125 receive surface water runoff from areas west of the main runway of the base which includes Sub-Management Area 2 and 3. The elevated surface water results are potentially associated with runoff from source areas during above average rainfall in 2022/2023 which may have increased concentrations in surface water runoff over the monitoring period from on-base PFAS source areas.

Off-base locations within the Bohle River/Louisa Creek/Town Common catchment are generally stable for PFOA (**Graph 14a**, **Appendix C**), however PFOS+PFHxS concentrations have been observed to be fluctuating (**Graph 14b**, **Appendix C**). New maximum concentrations of PFOS and PFOS+PFHxS were detected at locations to the northwest of the base within the Town Common Conservation Park (SW203, SW204, SW206 and SW207), and south of the base within the Louisa Creek Catchment (SW127 and SW021).

Off-base Town Common Conservation Park locations SW203, SW204, SW206 and SW207 are down gradient of the base and down gradient of on-base surface water sampling locations (SW126, SW131) which have historically recorded PFOS and PFOS+PFHxS concentrations an order of magnitude greater than those current observations off-base. At present, concentrations recorded at surface water locations have fluctuated above ecological criteria during post wet season sampling events and return below the ecological criteria during post dry season sampling events due to seasonality. Whilst this

pattern had existed at locations SW206 and SW207, in May 2022, a new exceedance of the ecological criteria was observed at SW203 and SW204 (the Bohle River mouth).

The concentrations particularly at SW203 and SW204 should continue to be monitored to ensure that future changes in off-base concentrations are captured. Consideration should also be given to whether additional down gradient sampling locations are required as SW204 represents the northwest extent of the monitoring area and the mixing zone between the Bohle River and the Coral Sea. It is possible that periods of high rainfall may result in migration of PFAS downstream. Mass flux studies currently being undertaken by Defence, will confirm the influence of rainfall on PFAS mass leaving the base via surface water.

Off-base Louisa Creek Catchment locations SW021 reported new historical maximum concentrations of PFOS and PFOS+PFHxS in the May 2023 event, an order of magnitude higher than historical results and representing a new exceedance of the adopted ecological guideline value for PFOS. Location SW127 is upstream of any potential PFAS influences from the base (WSP, 2018b) and increased concentrations may be from off-base sources in the upstream commercial/industrial area of Garbutt. Location SW021 is downstream from the Ingham Road sports field (Ruediger Park) which was identified in the DSI as a potential PFAS source (WSP, 2018b) in which high rainfall are potentially resulting in migration of PFAS downstream. Ruediger Park is an attached Property associated with RAAF Base Townsville.

Off-base locations SW021, SW203 and SW204 had new exceedances of the adopted ecological guideline value for PFOS, although other off-base surface water locations have exceeded this criteria.

8.4.2 Mundy Creek Catchment

New historical maximum sediment concentrations were also noted at SD132 co-located with surface water sample SW132. Location SW/SD132 is down-gradient of Sub Management Area 1 where PFAS remediation commenced in the second half of 2022 which also coincided with rainfall above historical average over the 2022/2023 wet season. Hence, the new historical concentrations at SW/SD132 are potentially associated with this remediation activity combined with above average rainfall.

Off-base concentrations of PFAS in surface water recorded some new maximum concentrations, however, overall the results were within historical ranges for the off-base dataset during the monitoring period with the exception of SW108 which detected PFOS in April 2023 an order of magnitude above historical ranges. These new maximum results coincide with new maximum concentrations also being detected in the sediment sample SD108 for the same sample event. Location SW/SD108 is down-gradient of potential source areas on-base. The higher surface water and sediment results are potentially associated with the above average rainfall resulting in increased concentrations in surface water runoff from potential PFAS source areas on-base and remediation activities within Sub-Management Area One.

Off-base surface water locations SW108, SW109 and SW116 reported new exceedances of adopted guidelines for human health recreational use for PFOS+PFHxS concentrations. However other off-base surface water locations have historically exceeded this adopted this guideline. Recreational exposure to surface water (such as swimming) is expected to be limited given the occurrence of crocodiles in the area and seasonal stingers in the estuaries. The known extent of PFAS in surface water has not changed.

8.4.3 Three Mile Creek catchment

New maximum concentrations were detected in April 2023 at SW210 and in May 2023 at SW107 in the off-base Three Mile Creek Catchment surface water locations. Off-base surface water location SW107 reported a new exceedance of adopted guidelines for human health recreational use for PFOS+PFHxS concentrations in May 2023, however other off-base surface water locations have historically exceeded this adopted guideline. Recreational exposure to surface water is expected to be limited given the occurrence of crocodiles in the area and seasonal stingers in the estuaries.

The results for SW107 are an order of magnitude higher than historical results however for SW210, they are within the same order of magnitude. Sampling at SW107 has been limited to collection of samples in the post-wet season monitoring events due to the location being dry during October sampling events.

Sampling of SW102 has tended to occur during wet season monitoring rounds only due to lack of water in the dry season with only one surface water sample collected during October 2021. Co-located with surface water location SW107 is sediment sample SD107 which detected new historical maximum concentration also in the April 2023 wet season event. SW107 is downstream of the base boundary and SW102. Surface water flowing off-base to the north discharges to the ephemeral wetland area. Potentially the above historic average rainfall has increased concentrations in surface water runoff over the monitoring period from on-base potential PFAS source areas.

8.4.4 Summary

Consistent with the previous reporting period (AECOM, 2021b), PFOA, PFOS, and PFOS+PFHxS concentrations experienced some seasonal fluctuation evident in increased concentrations in the months following the wet season in which high rainfall above historic averages are potentially resulting in migration of PFAS to surface water.

Generally, concentrations of PFAS compounds are lower in off-base monitoring locations compared to on-base locations, with the highest concentrations reported close to the on-base source areas. Concentrations further from the base have been reported at lower concentrations when compared to sampling locations near the base boundary. PFAS was detected in surface water bodies approximately 6 km away from the base (SW204) at concentrations two orders of magnitude lower compared to source area locations on-base (SW125). This is consistent with the previous monitoring period and there is a possibility of unidentified off-base sources of PFAS (WSP, 2018b).

The current monitoring location network and frequency is considered adequate to evaluate PFAS impacts migrating in surface water off-base.

8.5 Sediment

Concentrations of PFOA and PFOS+PFHxS are shown in **Figure F19a** to **Figure F23b** in **Appendix A**.

8.5.1 Bohle River/Louisa Creek/Town Common catchment

Concentrations of PFOA, PFOS and PFOS+PFHxS in the Bohle River/Louisa Creek/Town Common catchment were highest on-base. Five on-base locations SD013, SD014, SD016, SD125 and SD131 located west of the Sub-Management Areas recorded new maximums during the monitoring period. The new maximum concentrations at SD016 and SD125 are an order of magnitude above historic results with the latest results in April 2023 being the highest. Remaining locations reported concentrations within historical ranges. Sediment locations SD016 and SD125 have co-located surface water samples SW016 and SW125, respectively, which detected new maximum concentrations in the monitoring period with April 2023 also having the highest results. Locations SW/SD016 and SW/SD125 receive surface water runoff from areas west of the main runway which includes Sub-Management Areas Two and Three. The elevated sediment results are potentially the result of above average rainfall over the monitoring period, mobilising sediments and increasing concentrations in surface water runoff over the monitoring period from on-base PFAS source areas.

Off-base concentrations of PFAS in sediment recorded some new historical maximum concentrations, however concentrations overall were within historical ranges for the off-base dataset during the monitoring period.

8.5.2 Mundy Creek catchment

Consistent with the previous monitoring period, SD113 and SD118 east of the base boundary presented the highest PFAS concentrations in the off-base area. These locations are downgradient of Sub-Management Area One and Sub-Management Area Two. Higher concentrations of PFAS were also identified in sediment at SD115 and SD117 along the same waterway. This is consistent with results from the previous 2020 reporting period.

During the monitoring period, on-base locations within the Mundy Creek catchment were stable for PFOA, PFOS and PFOS+PFHxS except at SD010 and SD132. Within the monitoring period, concentrations at SD010 were within the same order of magnitude as historical results with a new historical maximum reported for PFOS in April 2023. SD132 results were an order of magnitude higher in the April 2023 sample event compared to previous events. New historical maximum concentrations were also noted at SD132 co-located surface water sample SW132.

Location SW/SD132 is down-gradient of Sub Management Area One where PFAS remediation commenced in the second half of 2022 which also coincided with rainfall above historical average over the 2022/2023 wet season.

Concentrations at off-base locations during the monitoring period have also remained stable with no new maximums recorded except at SD108. The April 2023 event at SD108 detected new maximum concentrations of PFOS, PFOS and PFOS+PFHxS an order of magnitude above historical results. These new maximum results coincide with new maximum concentrations also being detected in the surface water sample SW108 for the same sample event. Location SW/SD108 is down-gradient of potential source areas but not sub-management areas. New historical maximums at SW/SD132 and SD108 and increasing concentrations at SD118 are potentially associated with remediation activities within Sub-Management Area One (in the case of SW/SD132) combined with above average rainfall potentially mobilising and depositing sediments within the catchment, however there is variability in sediment concentrations along the Mundy Creek Catchment drainage lines and point sources for these PFAS concentrations may be varied and potentially include both on-and off-base sources.

8.5.3 Three Mile Creek catchment

The highest concentration of PFOS+PFHxS in the Three Mile Creek Catchment were reported in one on-base sampling location, SD102, with a new historical maximum concentration of PFOS and PFOS+PFHxS in the October 2021 sampling event. The concentrations have since reduced progressively since October 2021. This location is at the northern end of the main runway and north of the Management Area. There is a pump at this location to transfer water from the runway, off-base, in times of flood with discharges to the former Rowes Bay Landfill area.

Off-base SD107 is downstream of SD102, located in a shallow wetland area. New historical maximum concentrations of PFOA, PFOS and PFOS+PFHxS were detected at SD107 in the latest May 2023 sample event, although within the same order of magnitude as historical results. The other off-base location, SD210, detected PFAS in the monitoring period within historical ranges.

8.5.4 Summary

Variability of concentrations of PFOA and PFOS+PFHxS in sediment across the Monitoring Area is generally within historical ranges. Further monitoring is required to understand any changes to the contamination profile at the following locations with potential increasing concentrations:

- SD132 (on-base Mundy Creek Catchment)
- SD108 (off-base Mundy Creek Catchment)
- SD016 and SD125 (on-base Bohle River/Louisa Creek/Town Common Catchment).

The current sampling locations and frequency are considered adequate to evaluate PFAS impacts in sediment on and off-base.

9.0 Conceptual site model

The CSM was developed during the investigation stages (WSP, 2018b; WSP, 2019a; WSP, 2019b) and summarised in the OMP (Department of Defence, 2020). The CSM summarises the linkages between sources, exposure pathways and receptors.

The sampling conducted over the monitoring period (December 2020 to May 2023) has provided additional data to further understand the nature and extent of PFAS concentrations in groundwater, surface water and sediment. Comparison to the available historical dataset indicates that PFAS concentrations in groundwater and surface water are relatively stable since the CSM was developed as part of the DSI (WSP, 2018b). Some fluctuation in the concentrations of individual PFAS compounds at individual monitoring locations is occurring, but the PFAS transport mechanisms and extent of the plume has not changed. The concentration range for groundwater, surface water and sediment monitoring locations, recorded during the monitoring period are shown in **Figures F9a to Figure F23b (Appendix A)**. One groundwater monitoring well with PFAS concentrations orders of magnitude outside of historical range (MW021) is within a previously defined source area and as such, the exposure scenario is covered by the existing CSM. The latest April 2023 PFAS results of one groundwater well off-base MW262 represent an order of magnitude increase and has exceeded drinking water guidelines since April 2021, although incomplete exposure pathway covered by the existing CSM is considered not to have changed. Some increases in surface water and sediment concentrations were seen both on-base and off base, particularly to the west of the base, however at present there has not been a change to the risk profile and the extent and nature of the PFAS detected remains stable.

The pathways for PFAS exposure and risks to human health and ecological receptors presented in the HHRA (WSP, 2018a), ecological risk assessment (WSP, 2019c) and PMAP (Department of Defence, 2020) are considered to be relevant and data presented in this report does not suggest any significant changes to these mechanisms or risks.

The data presented in this report do not change the understanding of the CSM. Future monitoring will continue to contribute to an evaluation of any potential changes to the CSM understanding and potential effects of potential seasonal trends on PFAS concentrations.

10.0 Discussion

10.1 Risk profile

The risk profile to human health and ecological receptors within the Monitoring and Management Areas is unchanged, based on the data assessment which identified that:

- Groundwater PFAS concentrations are relatively stable and consistent with figures presented in the 2017 DSI (WSP, 2018b), Seasonal Monitoring Reports (WSP, 2019a; WSP, 2019b) and the 2020 AIR (AECOM, 2021b).
- The overall PFAS plume extent has not changed significantly compared to historical results.
- Off-base well MW262 located in the Webb Drive industrial precinct in the Nohle River/Louisa Creek Catchment had a new exceedance of the human health screening levels for drinking water in April 2021 and has exceeded since. MW262 has historically detected PFAS, but the latest April 2023 results represent an order of magnitude increase. The risk assessment previously identified that off-Base groundwater was not used for drinking purposes and as this incomplete exposure pathway has not changed, the risk profile remains the same.
- PFAS concentrations in surface water and sediment samples were generally consistent with historical results with some increasing concentrations requiring continued seasonal monitoring to identify trends.

The available historical dataset compared to the data collected during the ongoing monitoring sampling events does not suggest a change in the risk profile for on- and off-base human health receptors associated with exposure to PFAS in groundwater and surface water.

Further monitoring is required to further assess potential seasonal trends and to further assess key groundwater and surface water locations on the base boundary and off-base locations which recorded historical maximum concentrations. There were some first-time detects or new exceedances of guideline values, however these locations are in areas and scenarios already included in the CSM and this does not represent a change to the risk profile.

Based on the data, AECOM considers that the conclusions made in the HHRA (WSP, 2018a), ERA (WSP, 2019c) and PMAP (Department of Defence, 2020) still apply.

10.2 Triggers for OMP Review

Following a review of the data collected during the current monitoring period (December 2020 to May 2023), there have been no changes to the understanding of risks associated with PFAS in the RAAF Base Townsville Monitoring and Management Areas, spatial distribution of PFAS, and the need for monitoring of additional media. Based on this, there are currently no triggers for review of the OMP.

11.0 Conclusions

Groundwater, surface water and sediment monitoring were completed as part of the OMP in April 2022, October 2022, April to May 2023 and rainfall event sampling was completed in December 2020, January 2022 and April 2023, in general accordance with the SAQP (AECOM, 2021a). Data from the DSI (WSP, 2018b), Seasonal Monitoring Reports completed in 2019 (WSP, 2019a; WSP, 2019b), and 2020 AIR (AECOM, 2021b) were included in this report to assess changes from historical conditions.

Whilst there are some PFAS concentration outliers for the monitoring period, generally groundwater PFAS concentrations are consistent with historical data and within the range of seasonal variability for wet and dry season conditions. While locations within Sub-Management Area One, Two and Three will require on-going monitoring to assess the long-term influence on areas down hydraulic gradient of source areas with elevated concentrations; overall, the nature and extent of PFAS in groundwater off-base has not changed from the understanding presented in the investigation phases and the PMAP (Department of Defence, 2020).

Concentrations of PFAS in surface water and sediment within the Mundy Creek, Bohle River/Louisa Creek/Town Common and Three Mile Creek catchments were generally within historical ranges with some seasonal variability noted. These locations are within areas which have historical exceeded adopted guidelines values and therefore the risk profile is unchanged.

PFAS concentrations in sediment reported during the monitoring period do not present a change to the risk profile.

Continued monitoring under the OMP is required to further assess potential seasonal trends across all environmental media and to further assess key groundwater and surface water locations on the base boundary and off-base locations which recorded historical maximum concentrations.

The CSM was reviewed, and no changes were identified to the sources, pathways or receptors at the base and within the Management Area. The objectives of the SAQP and OMP have been met.

Based on the data reviewed, no changes to the risk profile are recommended, and there are no triggers to review the OMP. Based on the data, AECOM considers that the conclusions made in the PFAS Management Area Plan (PMAP) (Department of Defence, 2020), HHRA (WSP, 2018a) and ERA (WSP, 2019c) still apply.

12.0 References

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Appendix A

Figures



Legend

- Watercourse
- Management Area
- Sub-Management Area
- Monitoring Area



**FIGURE F1:
RAAF BASE TOWNSVILLE
LOCATION PLAN**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023) –
RAAF Base Townsville (0874)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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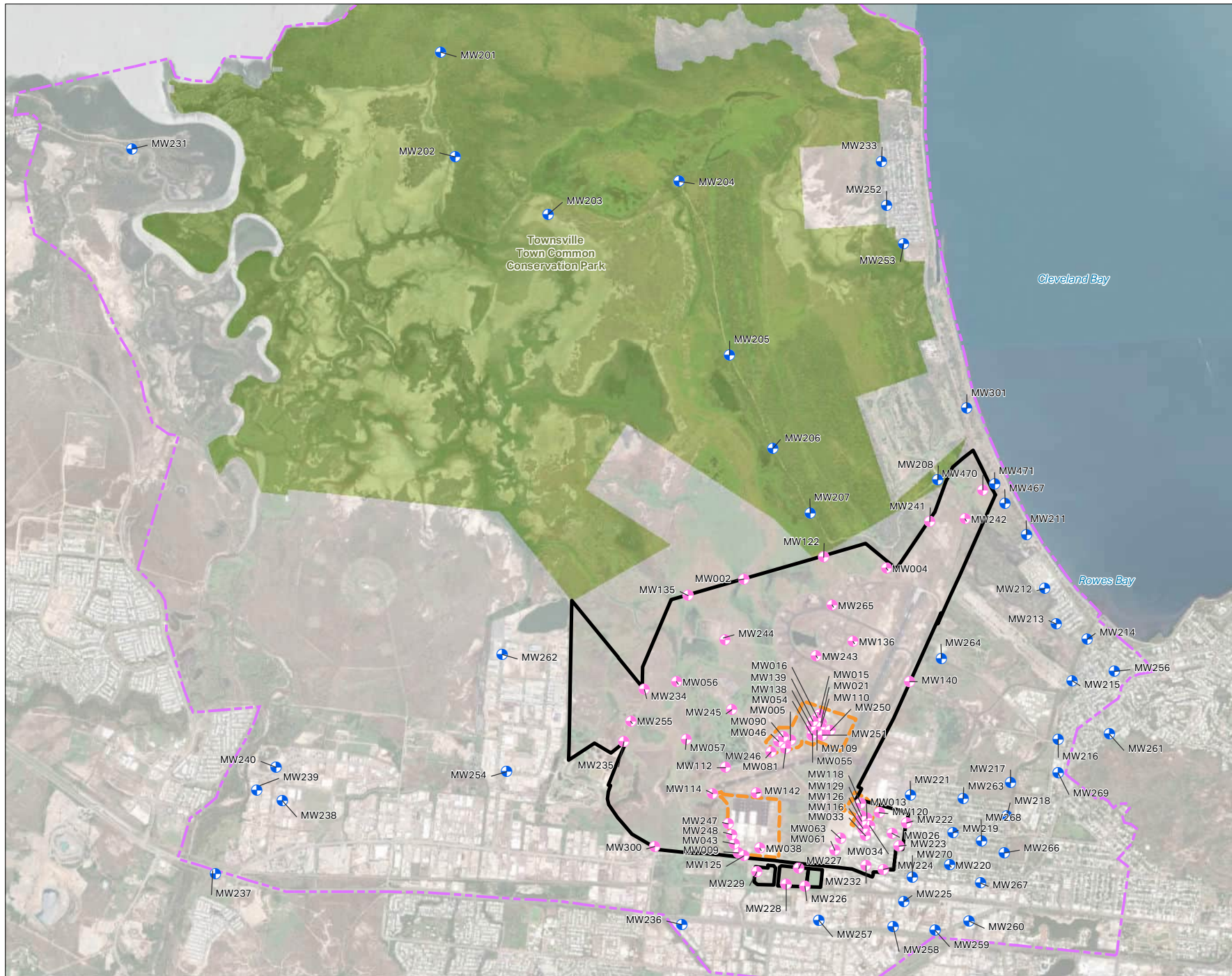
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE F2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023) –
RAAF Base Townsville (0874)
CLIENT NAME:
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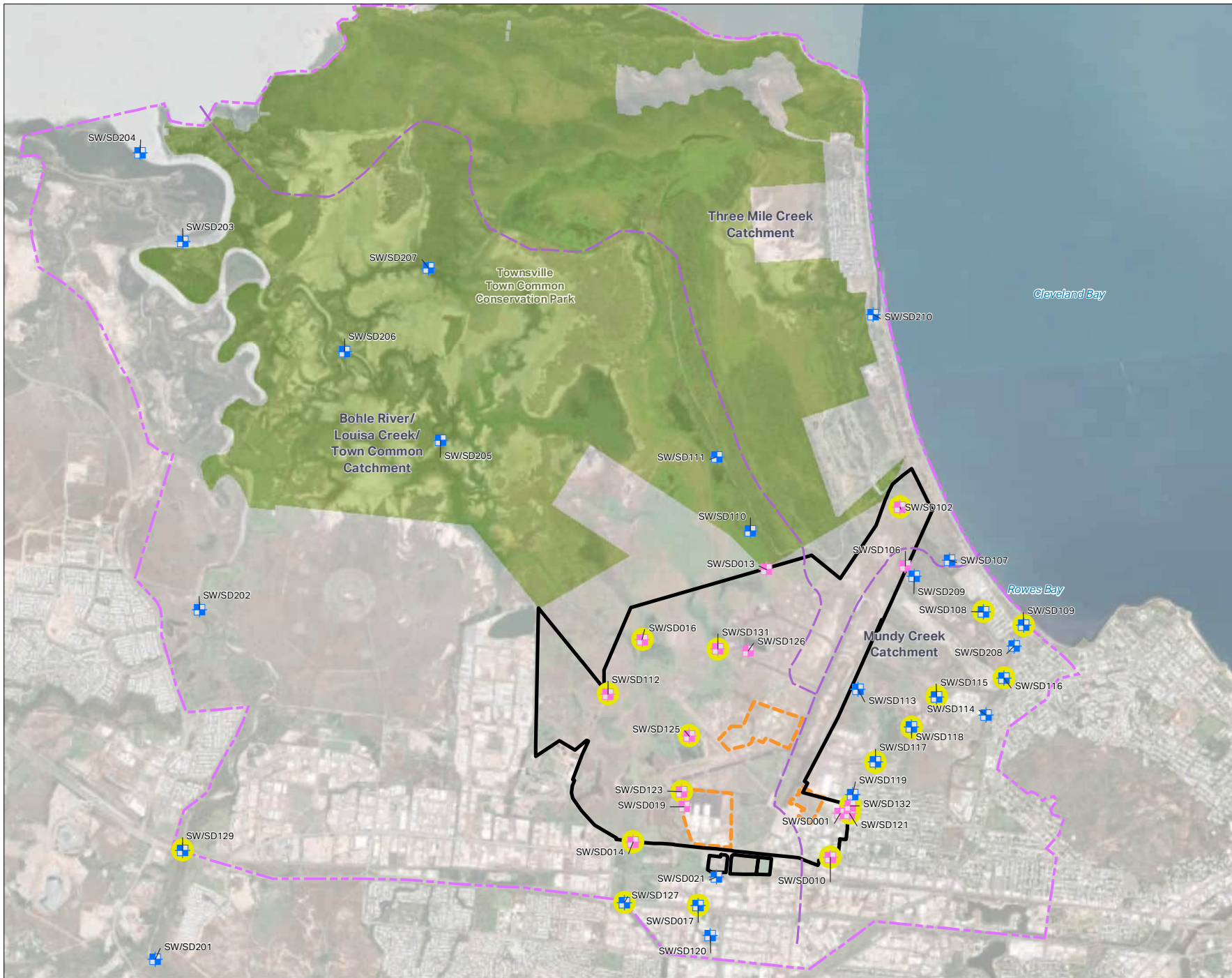
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Legend

- Management Area
- Catchment Boundaries
- Sub-Management Area
- Monitoring Area
- Off-base Surface Water/Sediment Locations
- On-Base Surface Water/Sediment Locations
- Rainfall Event Surface Water Sampling Locations



**FIGURE F3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023) –
RAAF Base Townsville (0874)
CLIENT NAME:
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PROJECT NUMBER:
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour
- Inferred groundwater flow direction
- On-base Monitoring Well
- Off-base Monitoring Well

Note: Groundwater gauging data collected on 20 April 2021

FIGURE F4: INFERRED GROUNDWATER CONTOURS - APRIL 2021

PROJECT NAME: PFAS OMP
REPORT NAME: Ongoing Monitoring Interpretive Report (December 2020 - May 2023) – RAAF Base Townsville (0874)
CLIENT NAME: Department of Defence
PROJECT NUMBER: 60612487

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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Inferred Groundwater Flow Direction
- Groundwater contour
- On-base Monitoring Well
- Off-base Monitoring Well
- Not accessed

Note: MW267 could not be accessed due to construction. Gauged MW260 instead.
Groundwater gauging data collected between 28 September and 16 October

**FIGURE F5:
INFERRED
GROUNDWATER
CONTOURS -
OCTOBER 2021**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive Report (December 2020 - May 2023) – RAAF Base Townsville (0874)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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0 500 1,000 m

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAH)
- ➔ Inferred Groundwater Flow Direction
- ⊕ On-base Monitoring Well
- ⊕ Off-base Monitoring Well
- Damaged
- ⊕ MW255 Omitted from inferred contours due to anomalous gauging field measurement

Note: MW253 could not be gauged due to damage.

FIGURE F6: INFERRED GROUNDWATER CONTOURS - APRIL 2022

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Report (December 2020 - May 2023) –
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Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Decommissioned Monitoring Well
- MW206 Omitted from inferred contours due to anomalous gauging field measurement
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction

Groundwater gauging data collected October and December 2022

**FIGURE F7:
INFERRED
GROUNDWATER
CONTOURS -
OCTOBER 2022**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023)
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Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Monitoring Well not gauged due to flooding
- Decommissioned Monitoring Well
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction

Groundwater gauging data collected April and May 2023

**FIGURE F8:
INFERRED
GROUNDWATER
CONTOURS -
APRIL 2023**

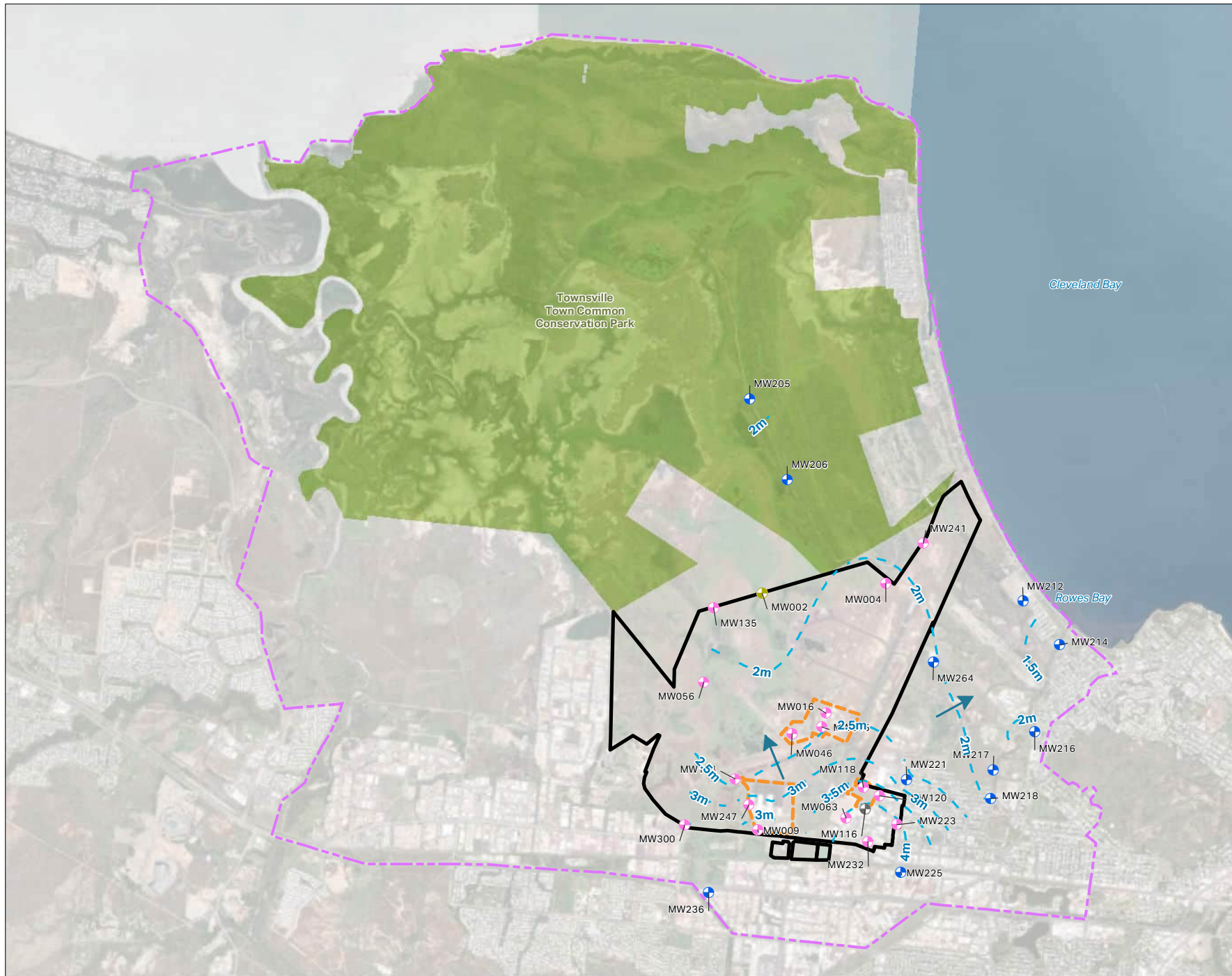
PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023)
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Legend

- Monitoring Area
 - Management Area
 - Sub-Management Area
 - Catchment Boundaries
- Concentration of PFHxS + PFOS (µg/L)**
- ≥ 50 µg/L
 - 10-50 µg/L
 - 0.07-10 µg/L
 - LOR - 0.07 µg/L
 - < LOR
 - Location not sampled

FIGURE F9a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2021

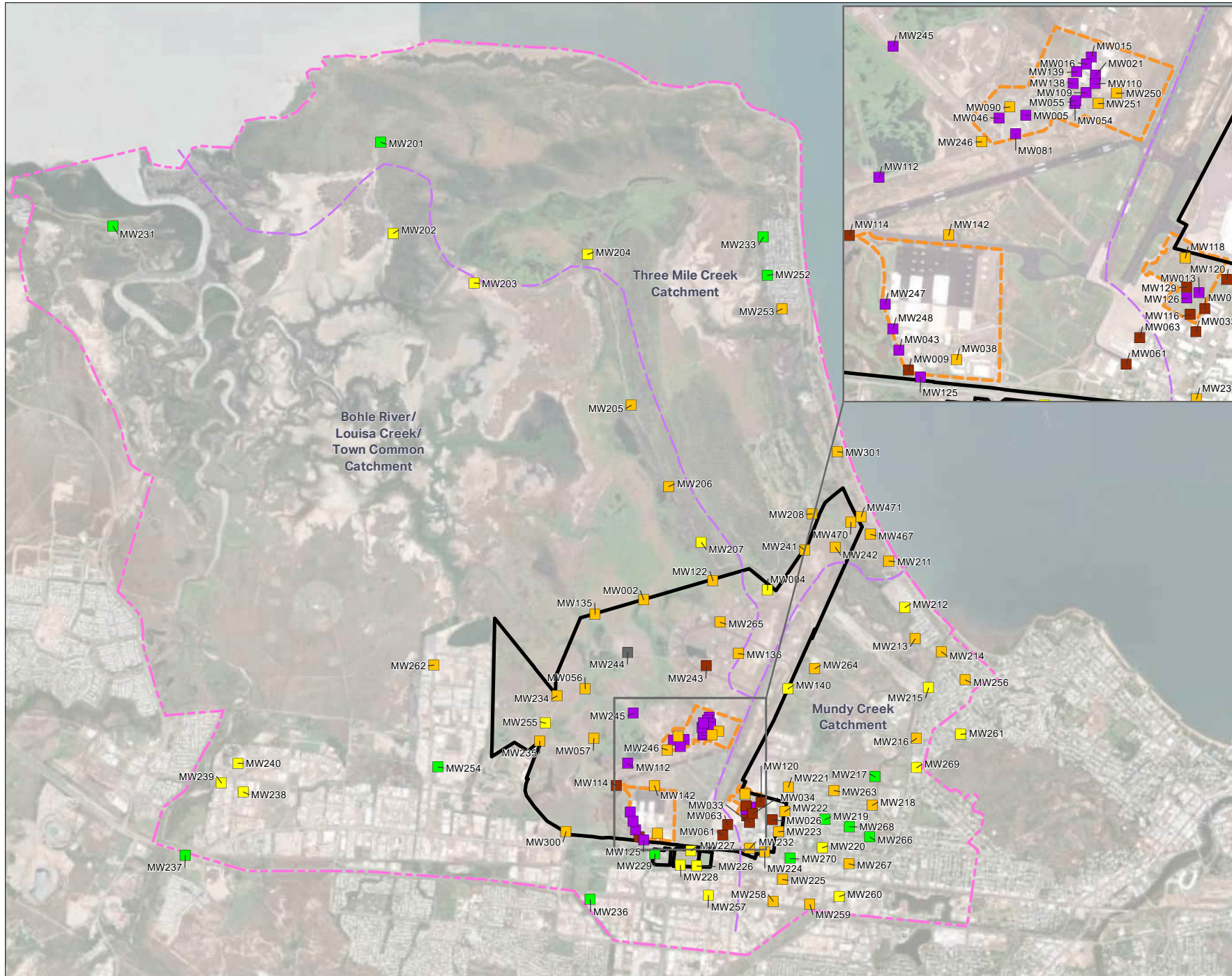
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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 USDA, USGS, AeroGRID, IGN and the GIS User



Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE F9b
GROUNDWATER
CONCENTRATION
OF PFOA -
APRIL 2021

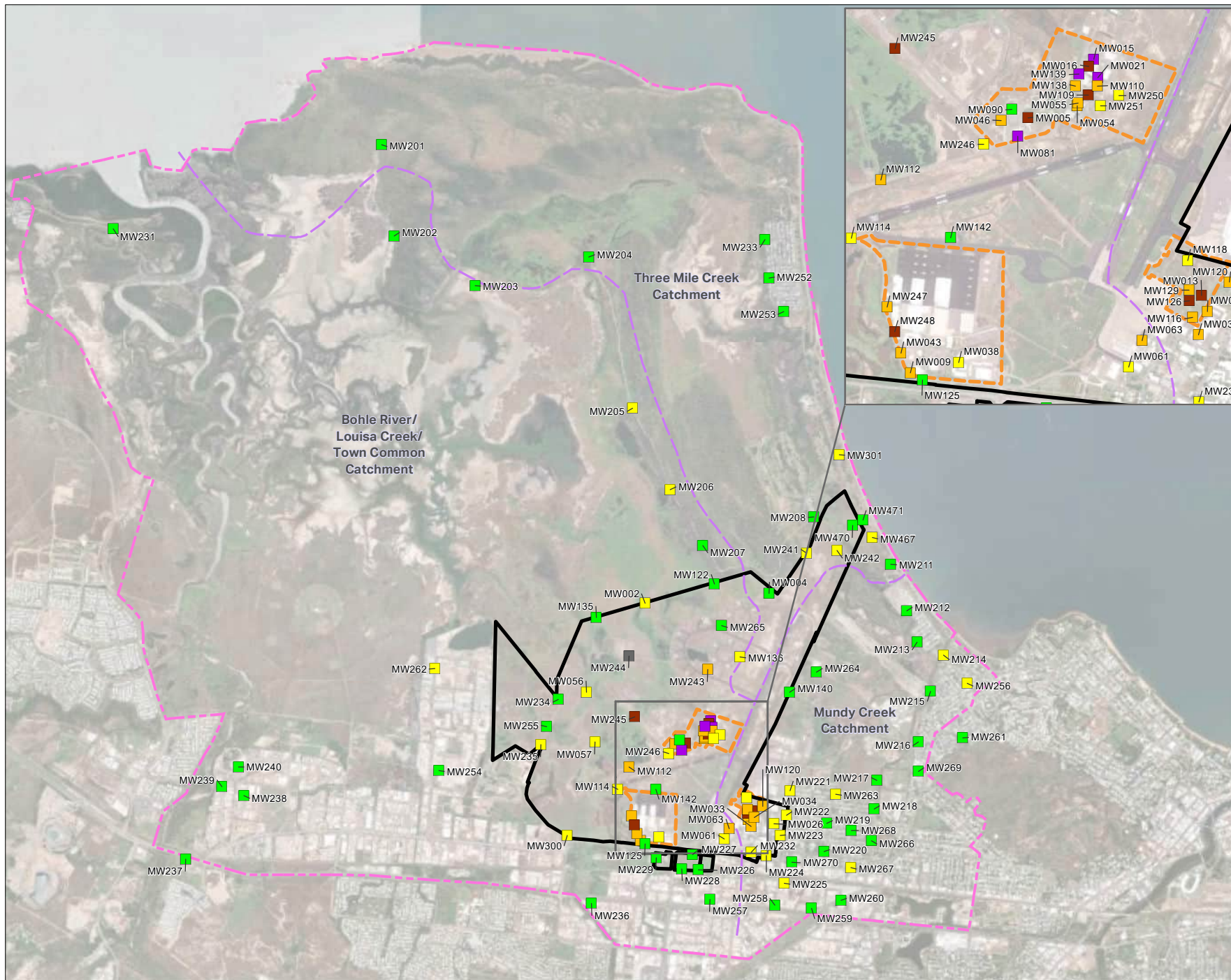
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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 Report (December 2020 - May 2023) –
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CLIENT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F10a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2021

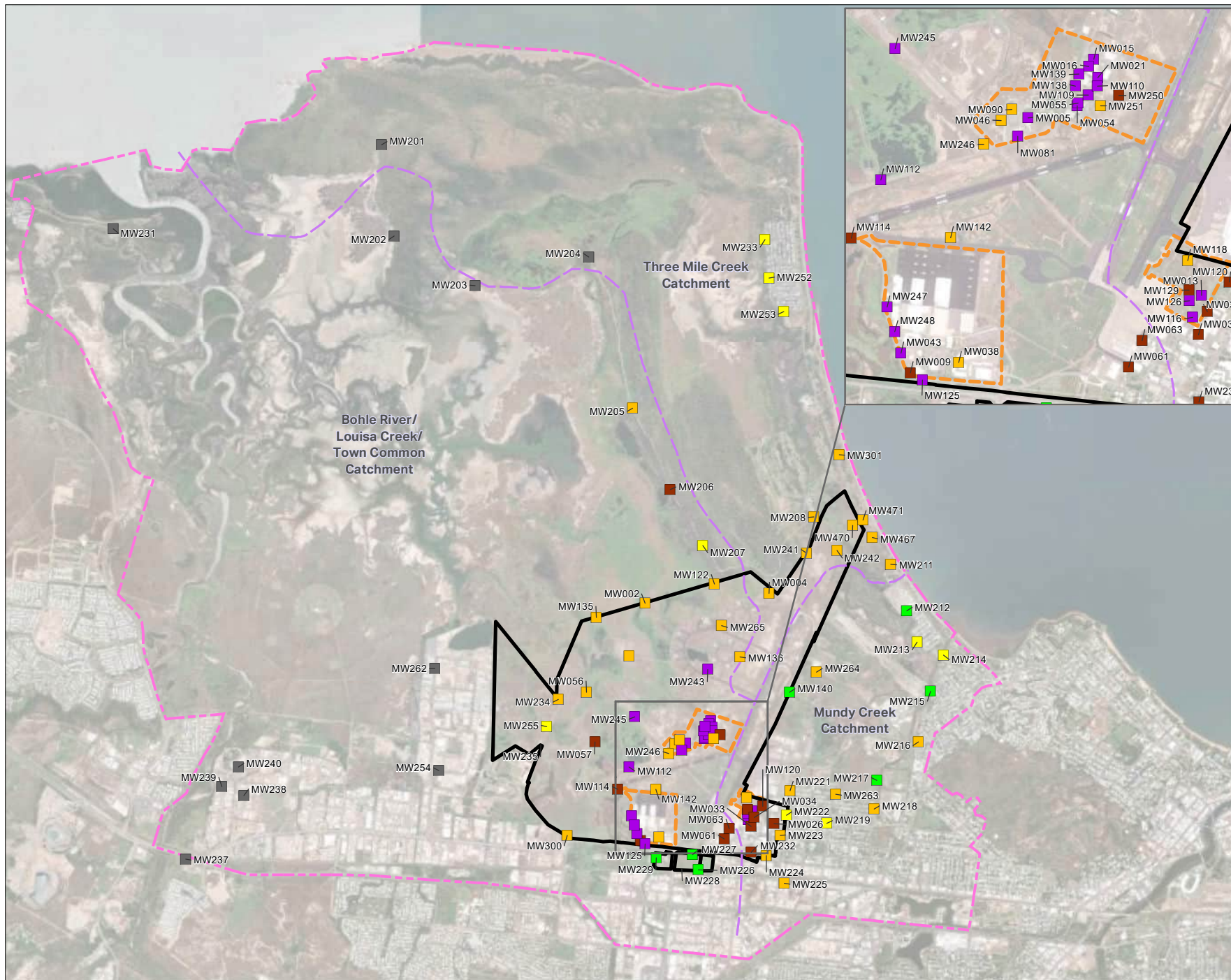
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

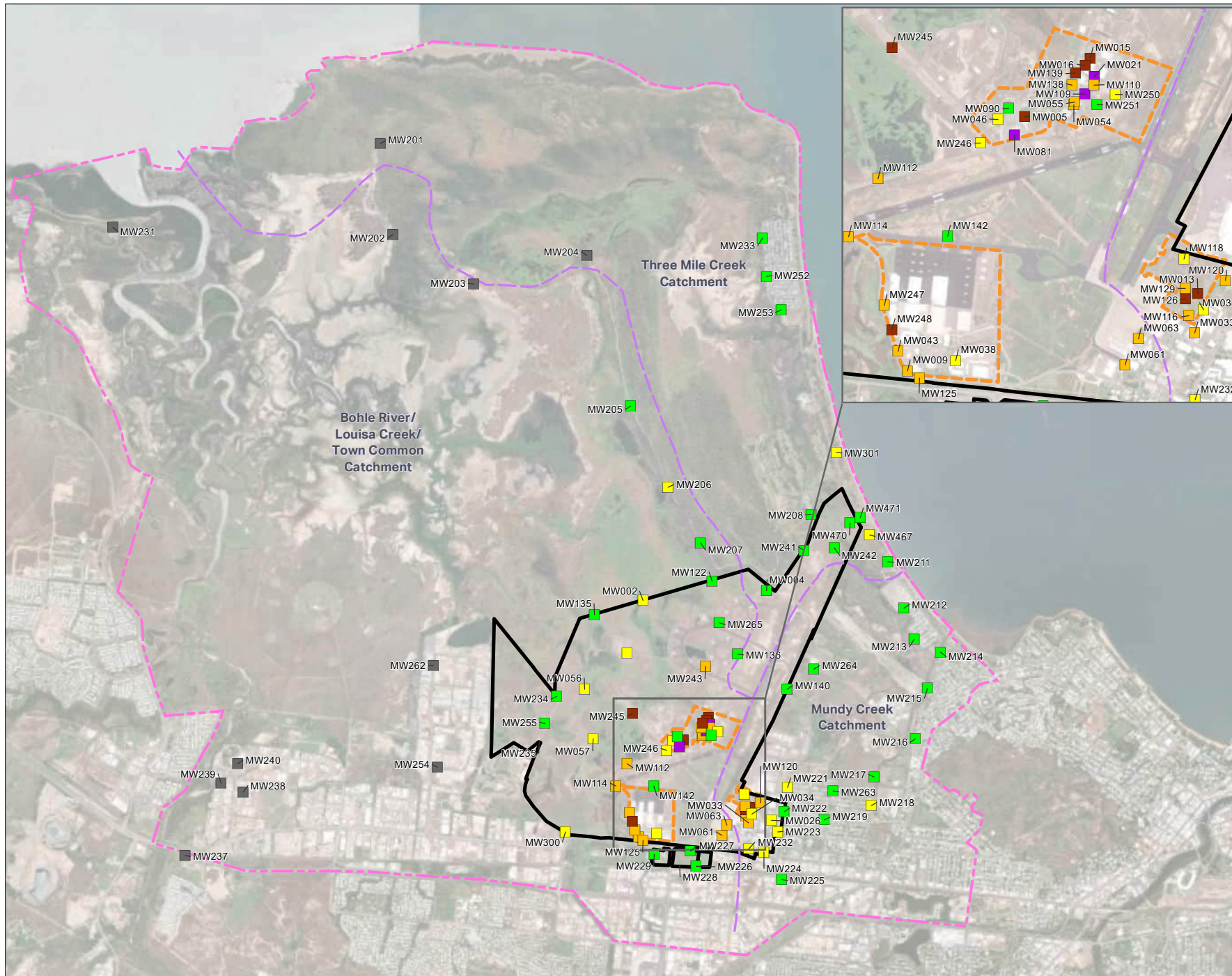
**FIGURE F10b
GROUNDWATER
CONCENTRATION
OF PFOA –
OCTOBER 2021**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023) –
RAAF Base Townsville (0874)
CLIENT NAME:
Department of Defence
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F11a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2022

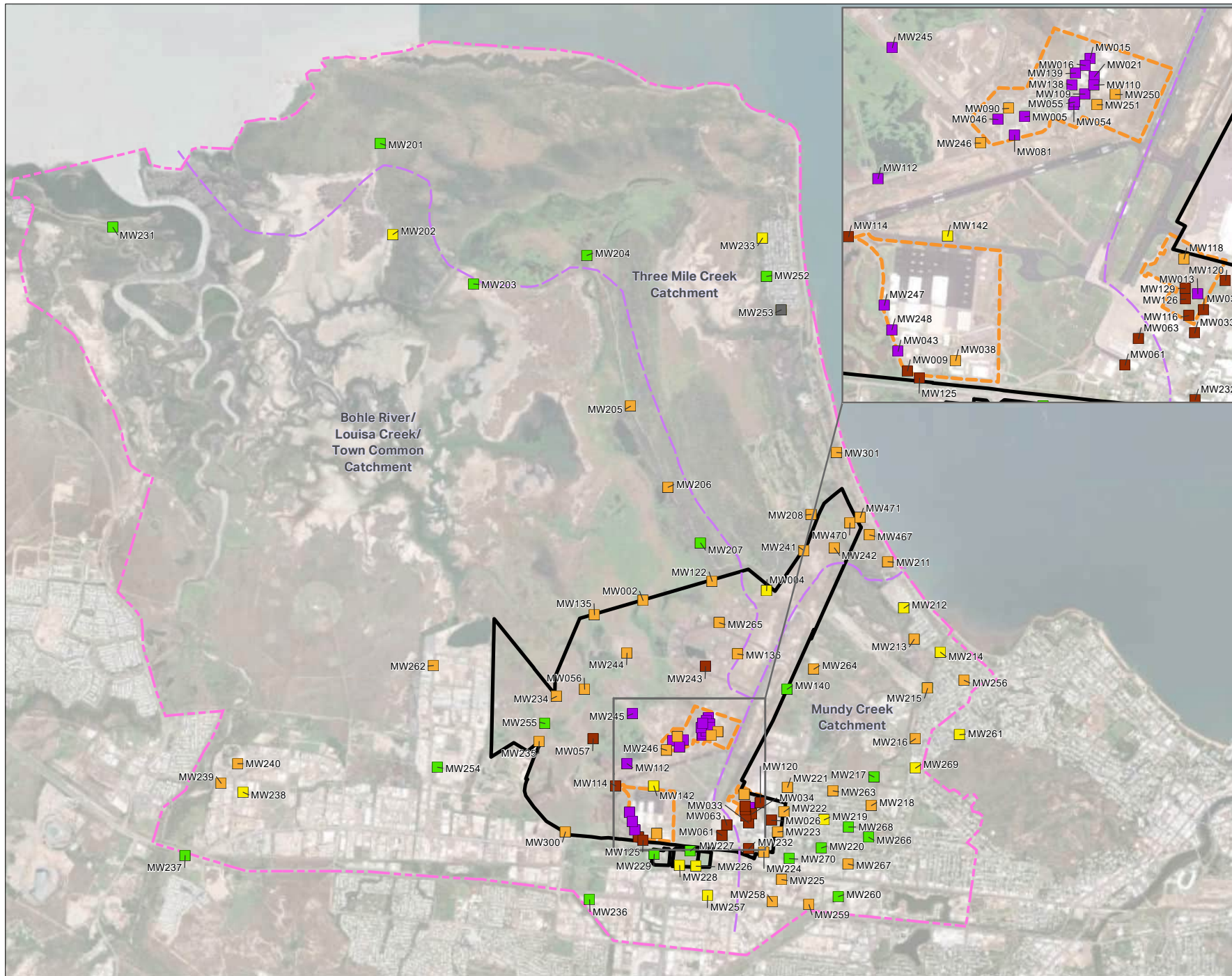
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
CLIENT NAME:
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Legend

- Monitoring Area
 - Management Area
 - Sub-Management Area
 - Catchment Boundaries
- Concentration of PFOA (µg/L)**
- ≥ 50 µg/L
 - 10-50 µg/L
 - 0.56 -10 µg/L
 - LOR - 0.56 µg/L
 - < LOR
 - Location not sampled

**FIGURE F11b
GROUNDWATER
CONCENTRATION OF
PFOA
APRIL 2022**

PROJECT NAME:
PFAS OMP
REPORT NAME:
Ongoing Monitoring Interpretive
Report (December 2020 - May 2023) –
RAAF Base Townsville (0874)
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F12a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2022

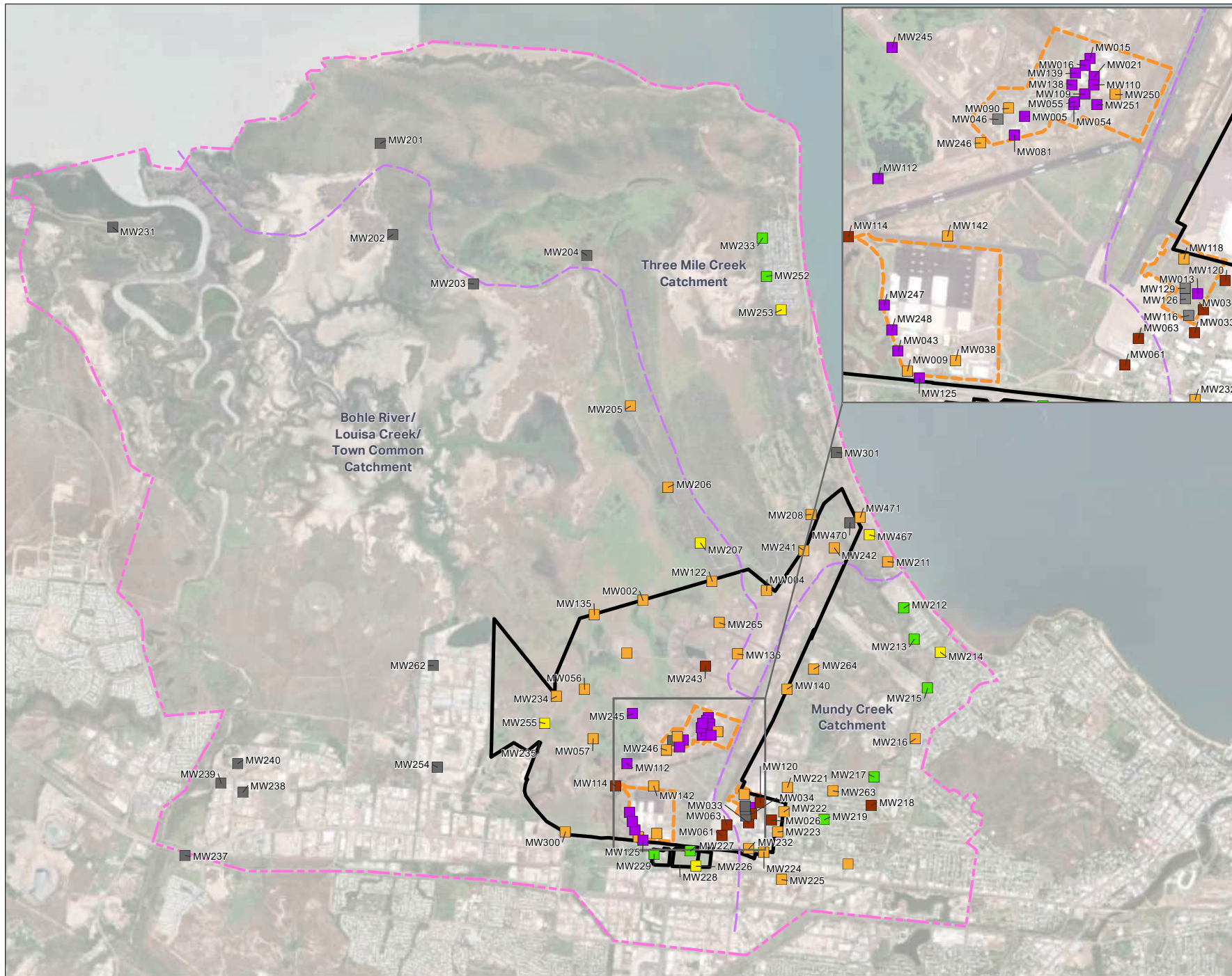
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
CLIENT NAME:
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PROJECT NUMBER:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE F12b
GROUNDWATER
CONCENTRATION
OF PFOA –
OCTOBER 2022

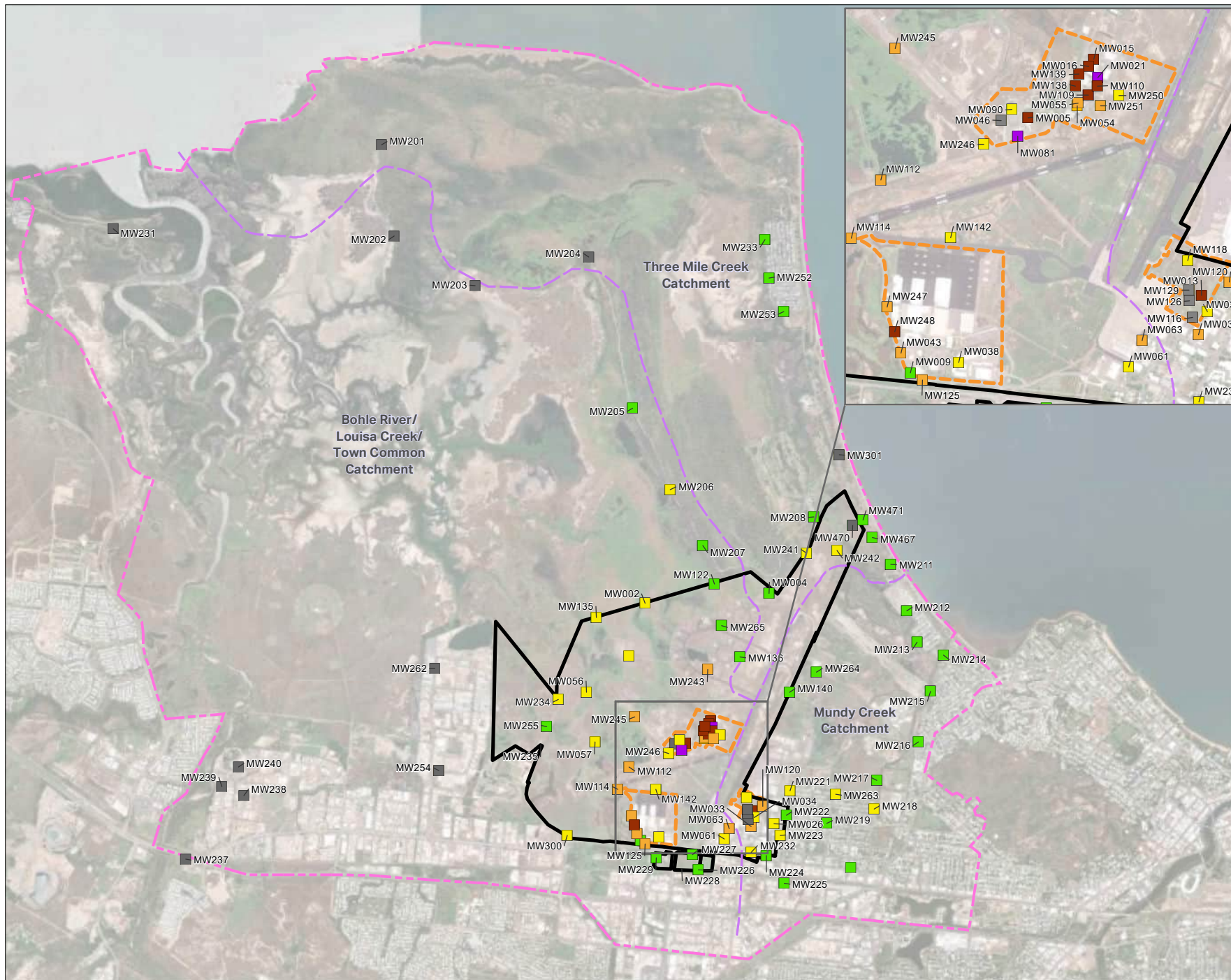
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F13a
GROUNDWATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2023

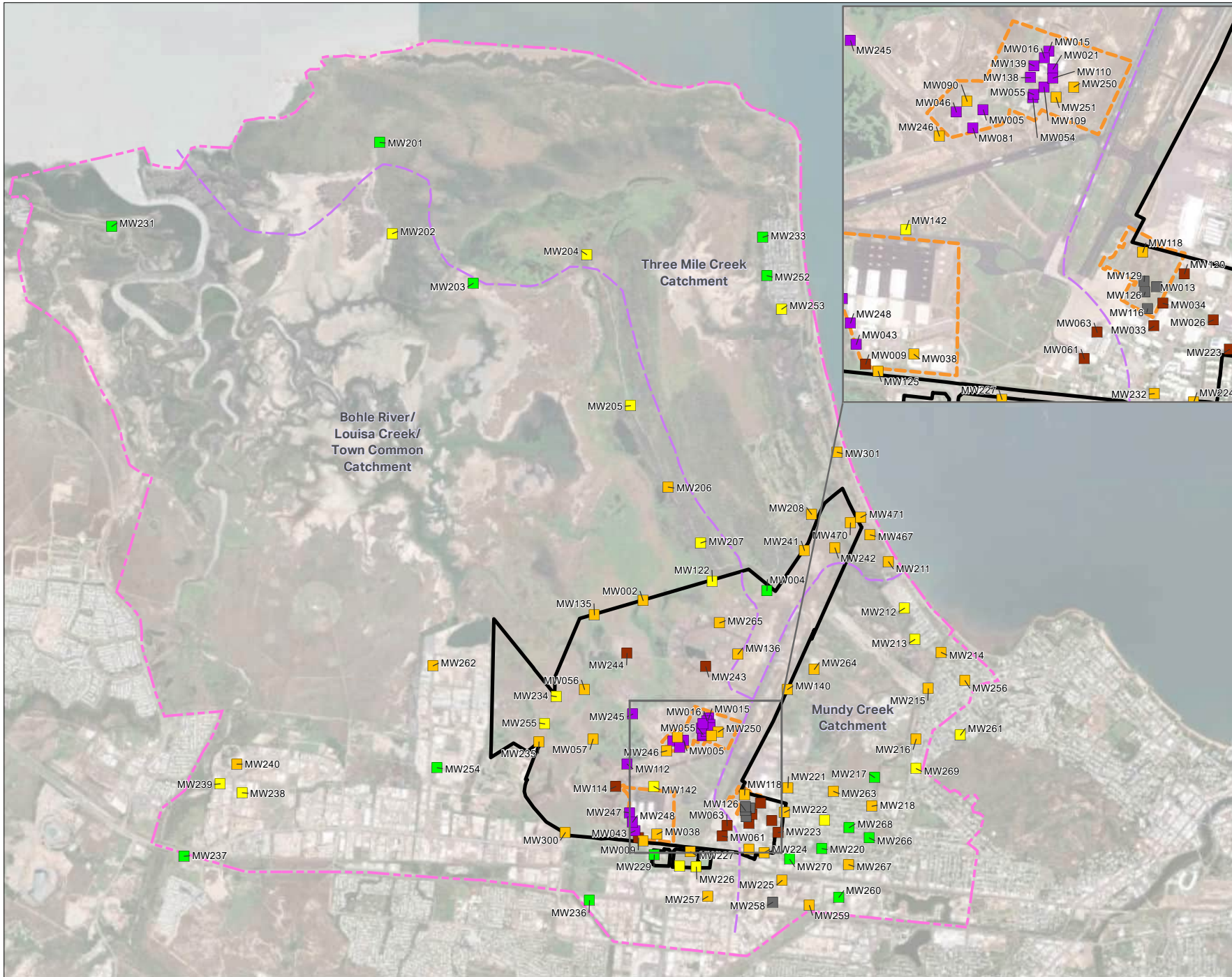
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE F13b
GROUNDWATER
CONCENTRATION OF
PFOA – APRIL 2023

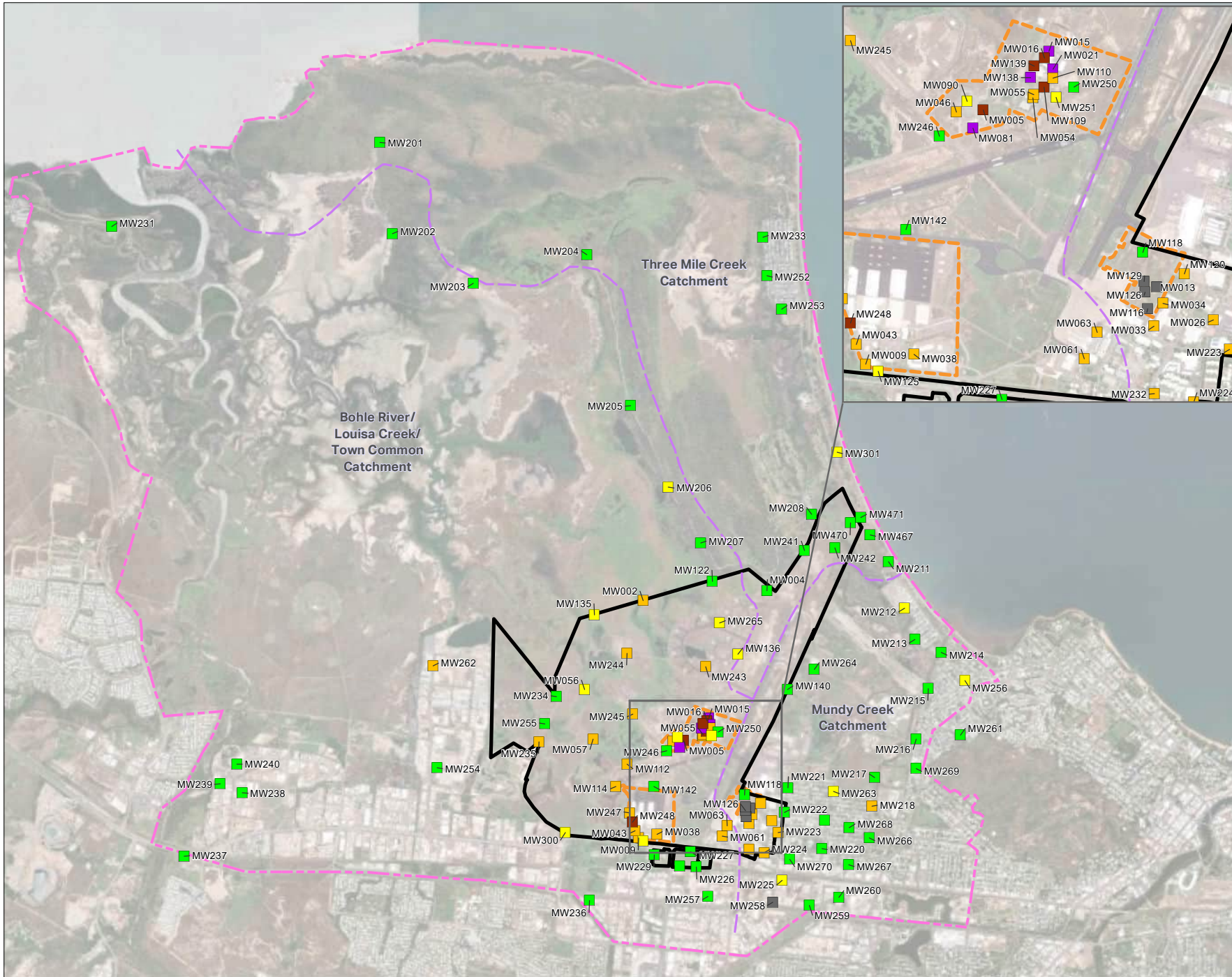
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE 14a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2021

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE 14b
SURFACE WATER
CONCENTRATION
OF PFOA -
APRIL 2021

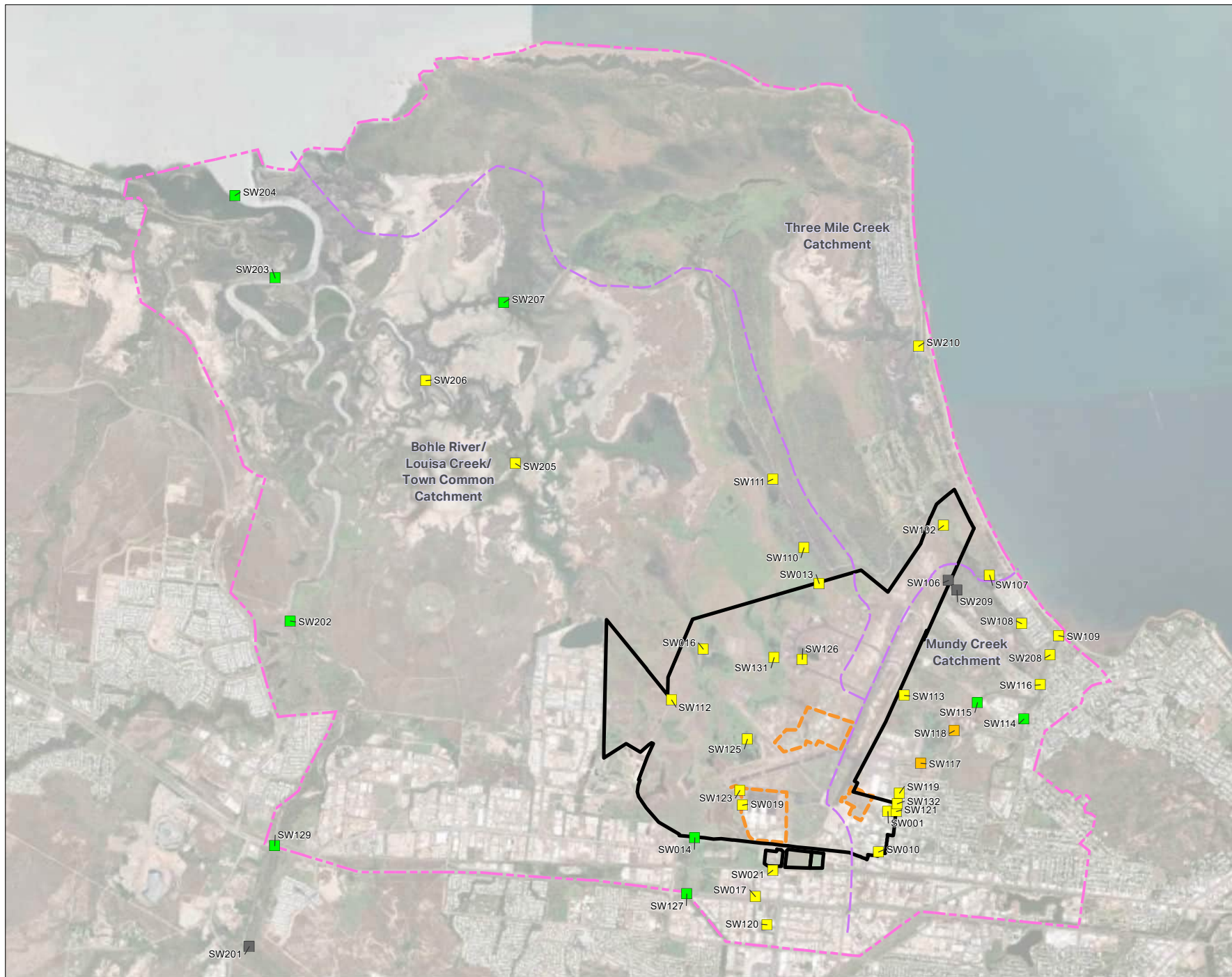
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
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CLIENT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE 15a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2021

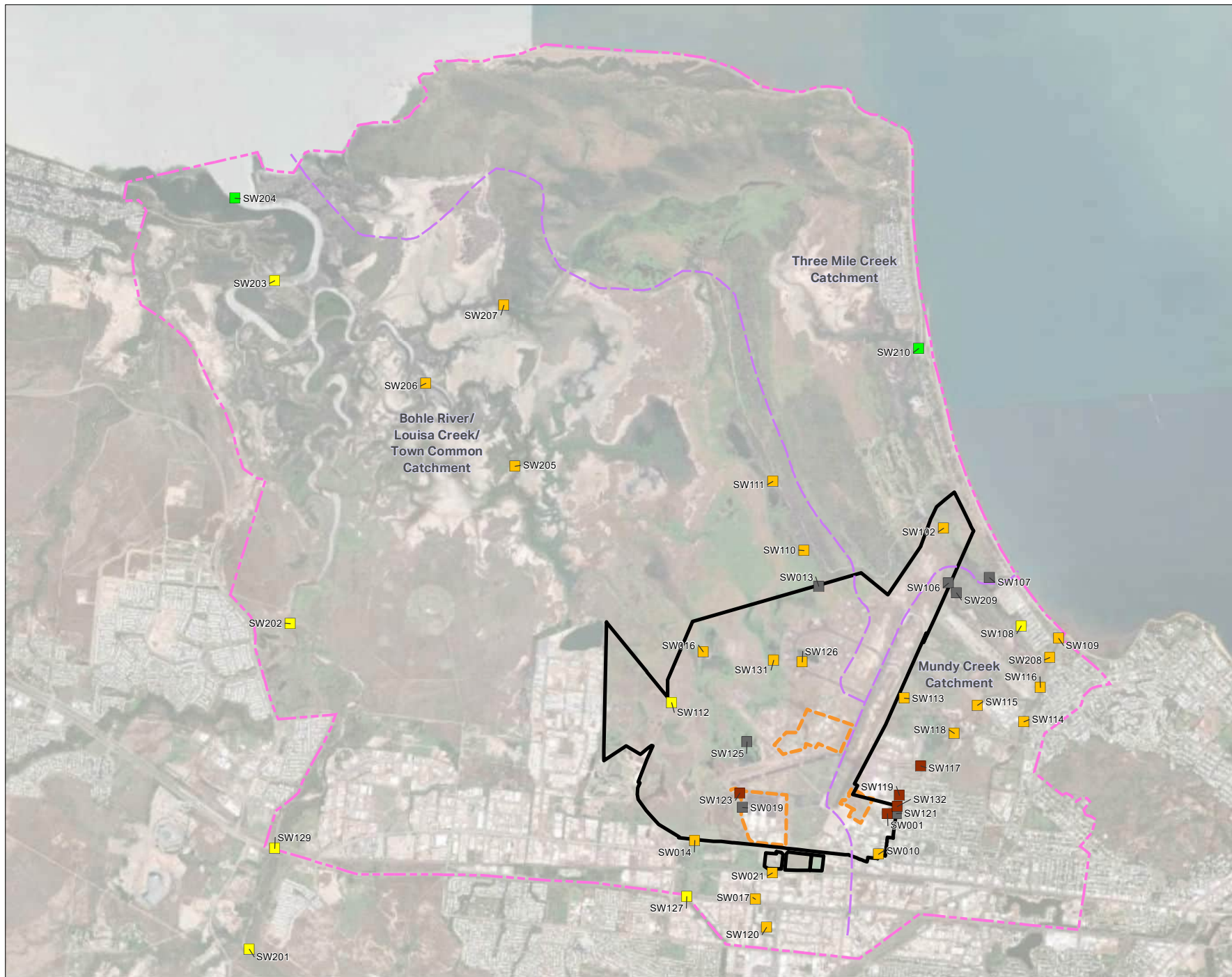
PROJECT NAME:
 PFAS OMP
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE 15b
SURFACE WATER
CONCENTRATION
OF PFOA –
OCTOBER 2021

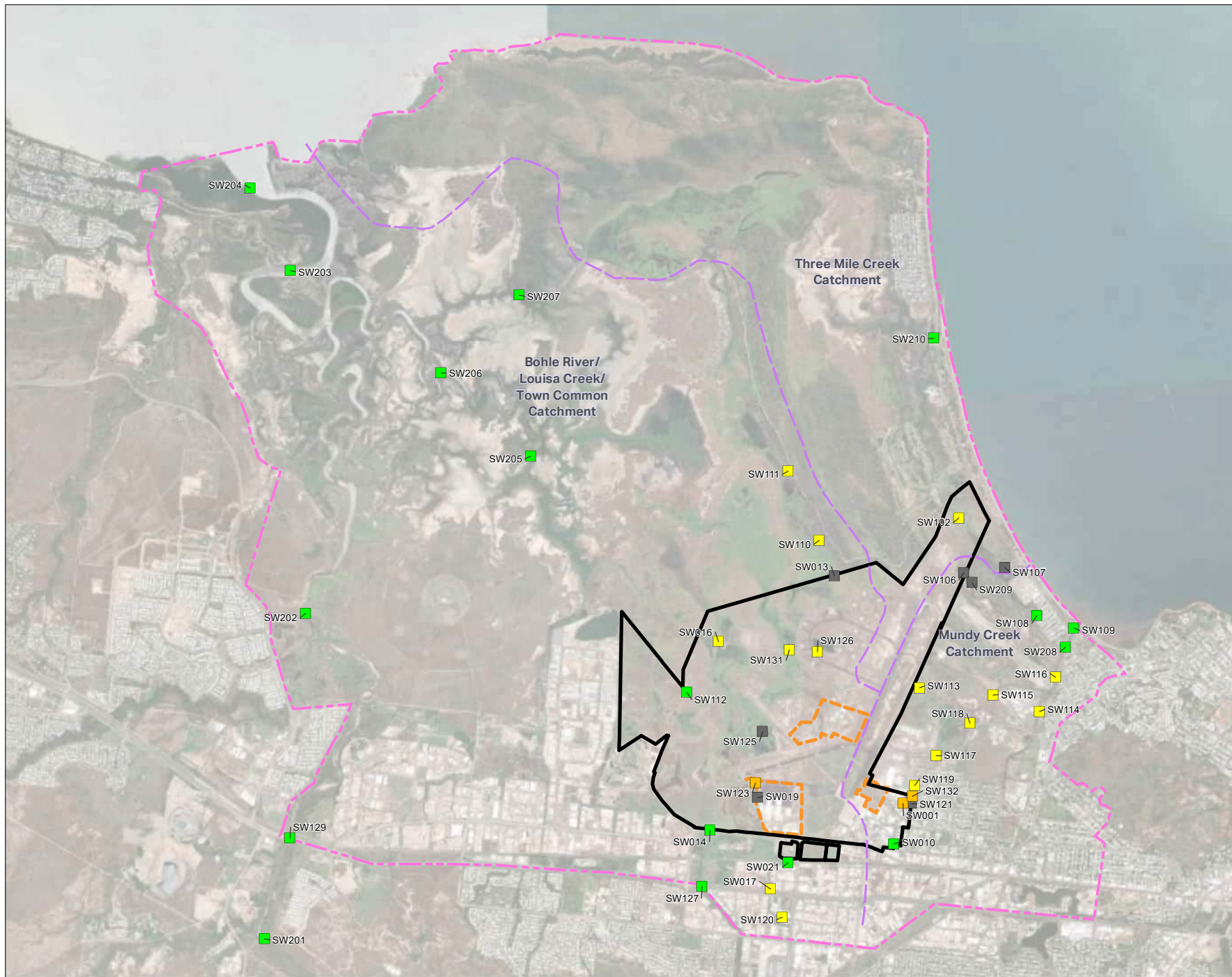
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F16a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2022

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 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE F16b
SURFACE WATER
CONCENTRATION
OF PFOA
APRIL 2022

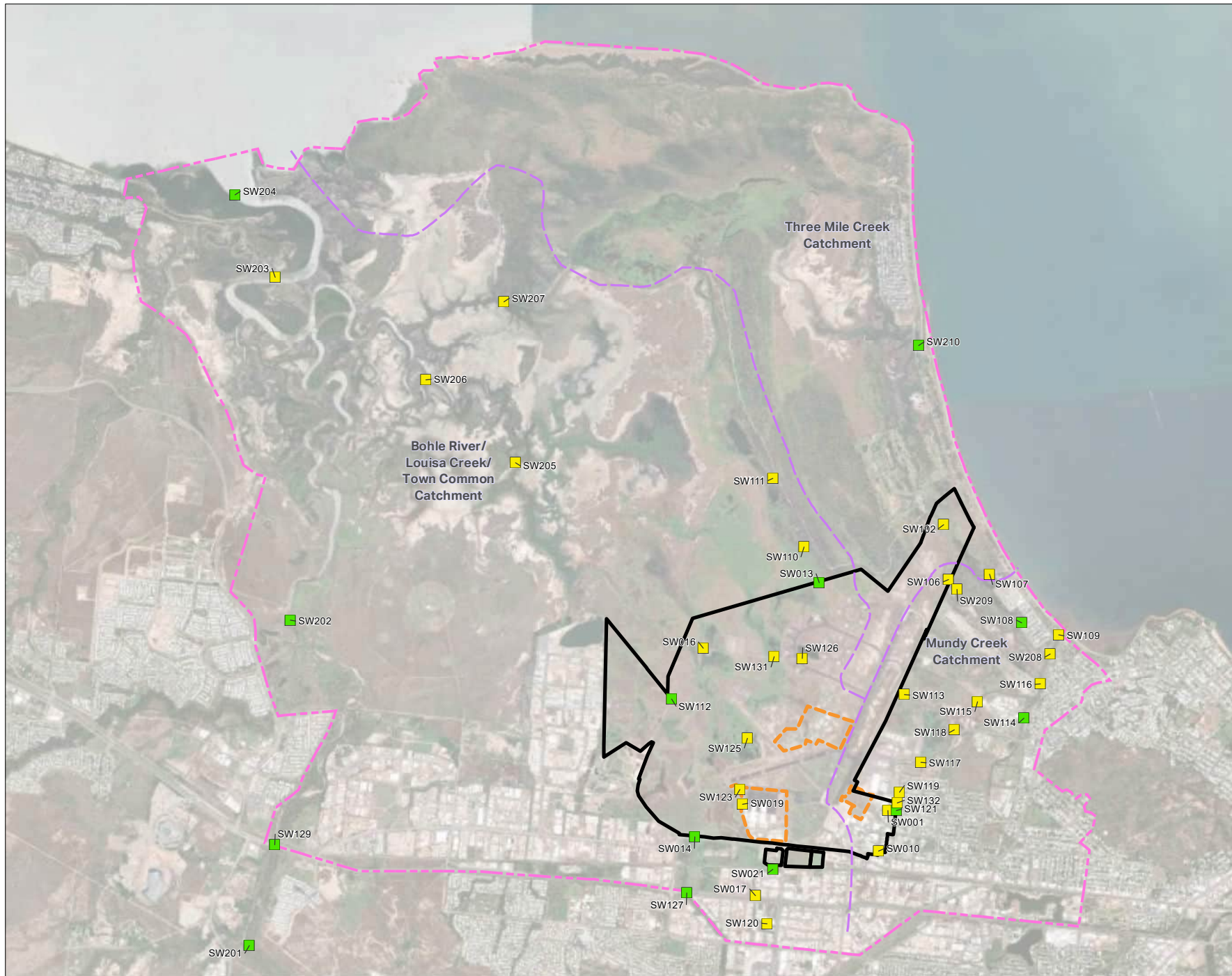
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled

FIGURE F17a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2022

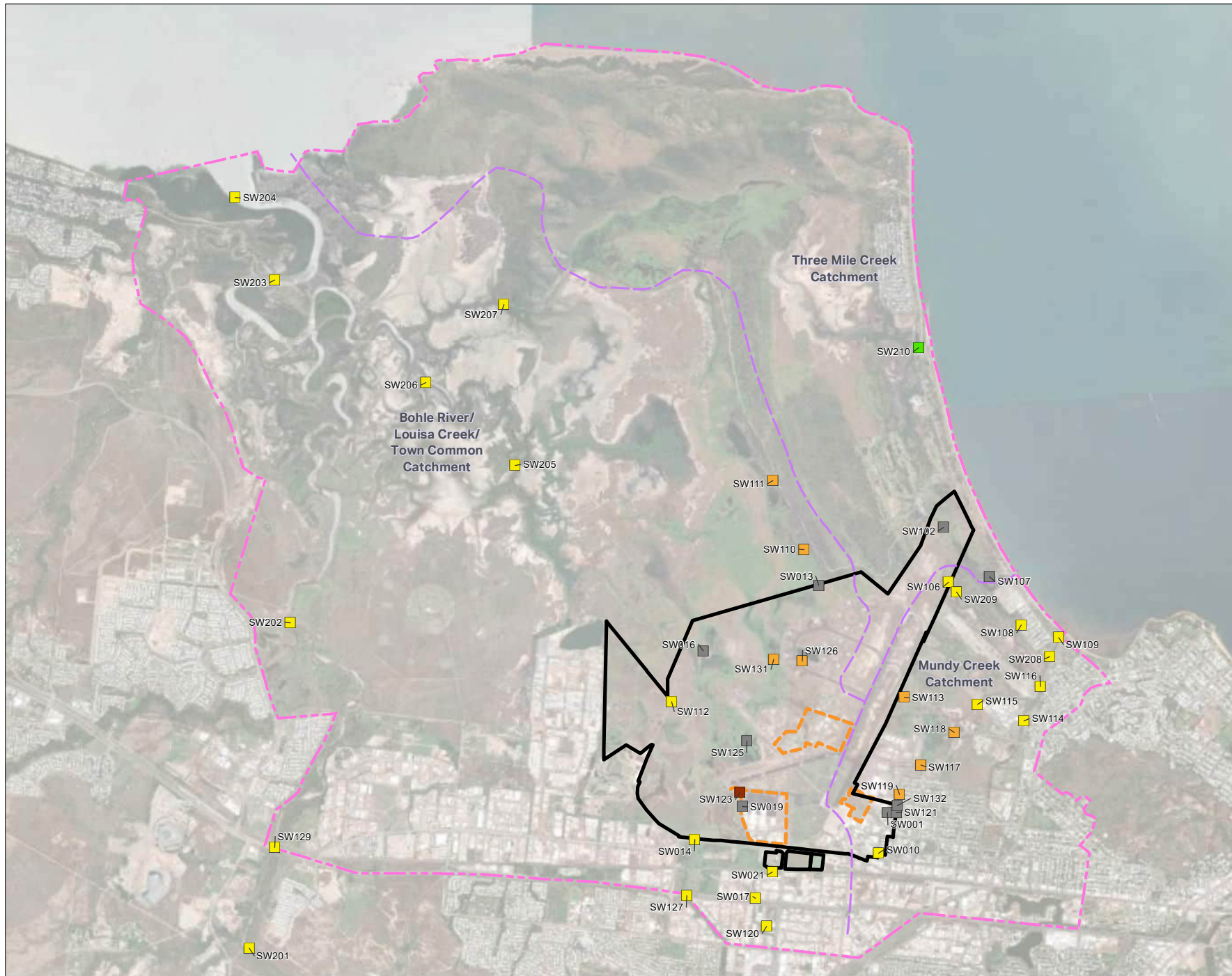
PROJECT NAME:
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Legend

- Investigation Area
- Monitoring Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10 - 50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR
- Location not sampled

FIGURE F17b
SURFACE WATER
CONCENTRATION
OF PFOA –
OCTOBER 2022

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR

FIGURE F18a
SURFACE WATER
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2023

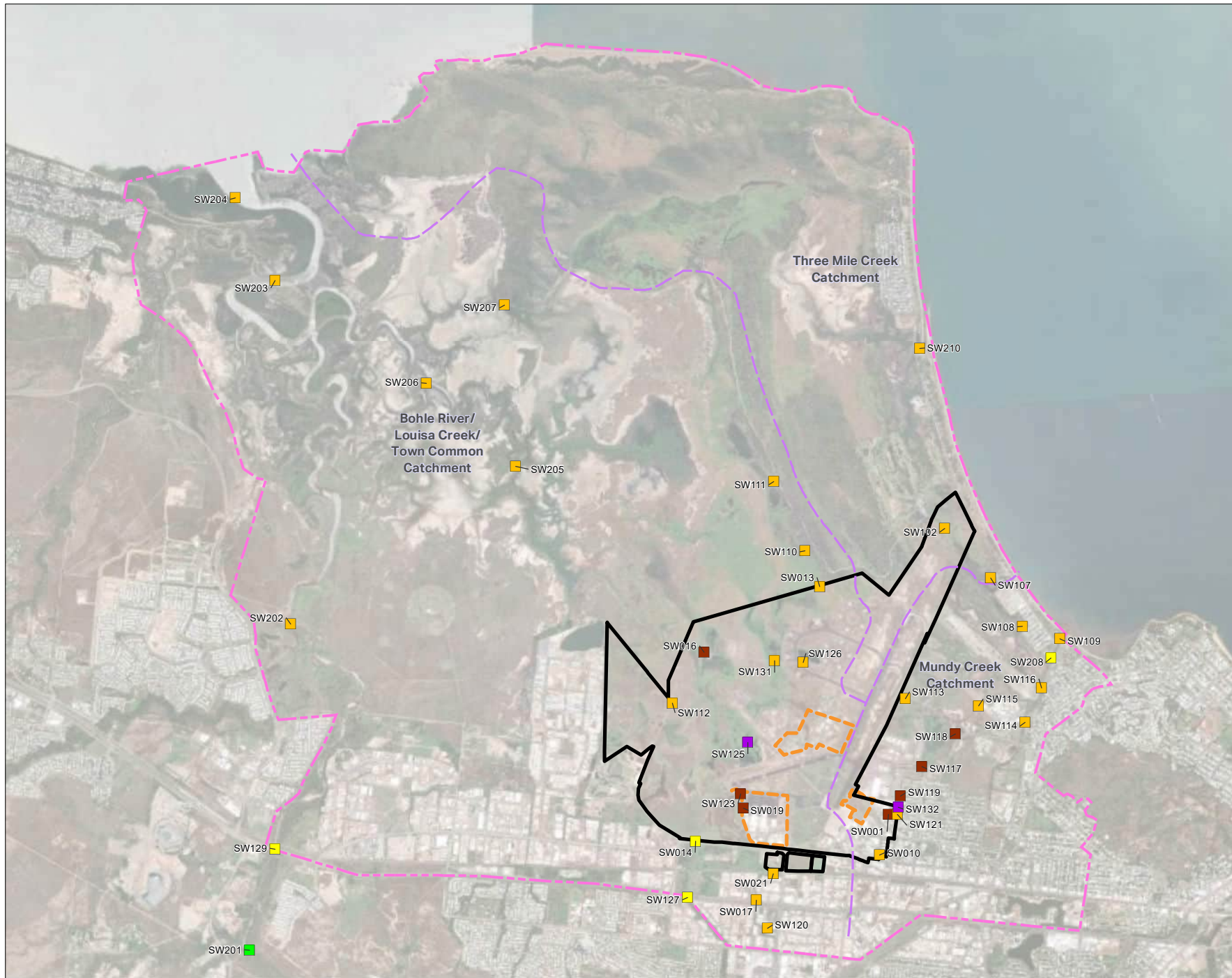
PROJECT NAME:
 PFAS OMP
REPORT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.56 - 10 µg/L
- LOR - 0.56 µg/L
- < LOR

FIGURE F18b
SURFACE WATER
CONCENTRATION OF
PFOA – APRIL 2023

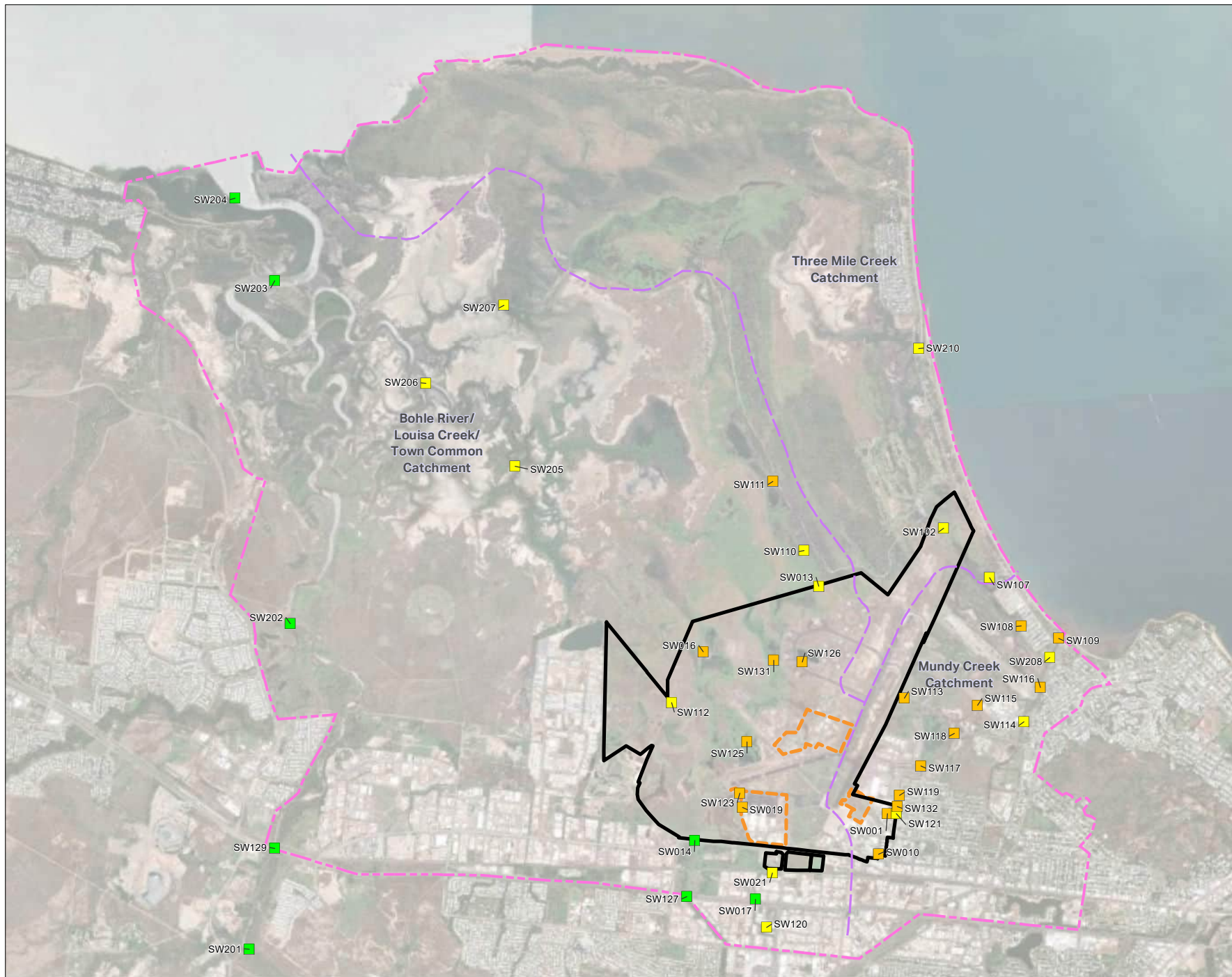
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
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Legend

- Monitoring Area
 - Management Area
 - Sub-Management Area
 - Catchment Boundaries
- Concentration of PFHxS + PFOS (mg/kg)**
- ≥ 10mg/kg
 - 1 - 10 mg/kg
 - 0.3 - 1 mg/kg
 - LOR - 0.3 mg/kg
 - < LOR
 - Location not sampled

FIGURE F19a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2021

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
 RAAF Base Townsville (0874)
CLIENT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA

- > 10 mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F19b
SEDIMENT
CONCENTRATION
OF PFOA -
APRIL 2021

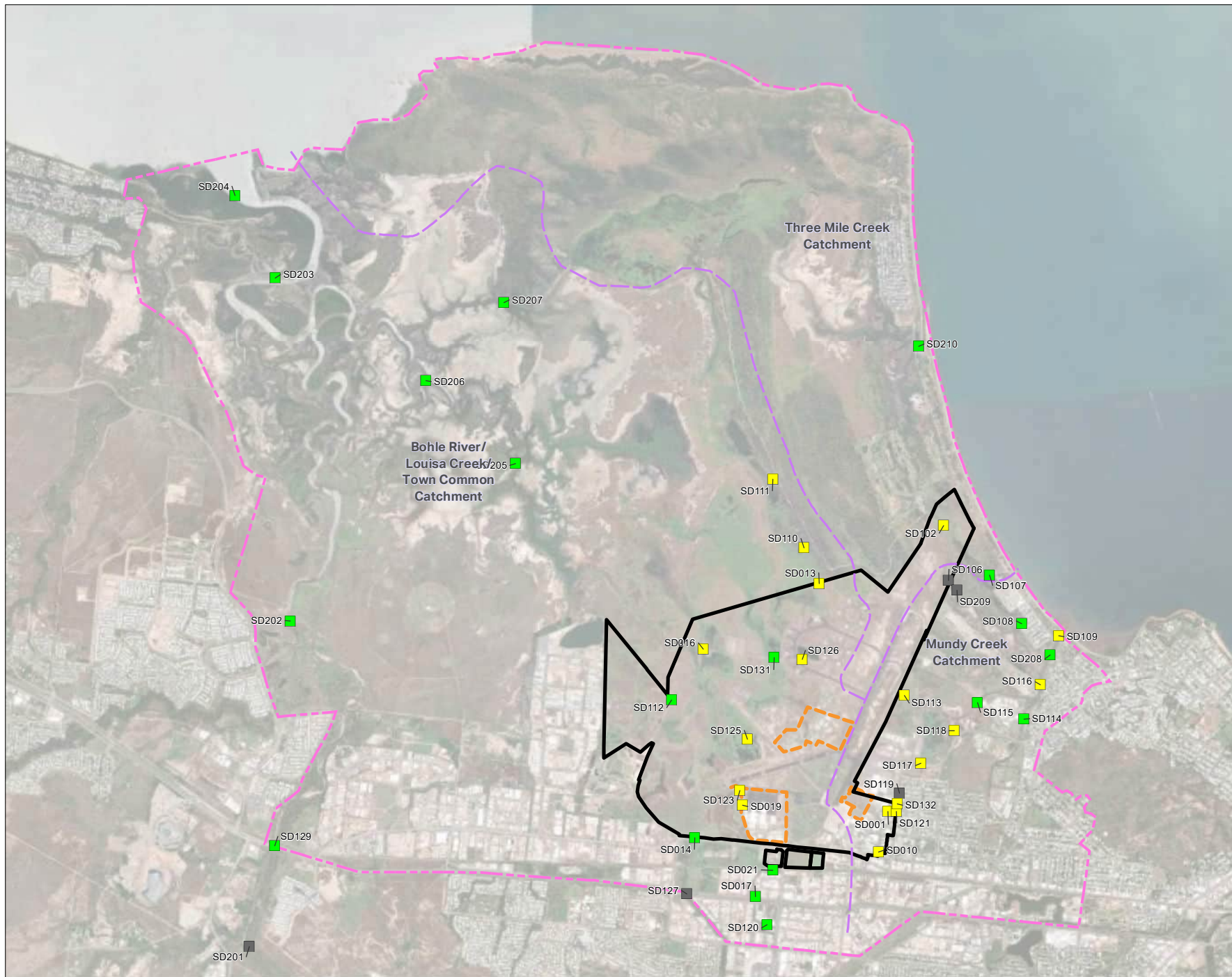
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F20a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
OCTOBER 2021

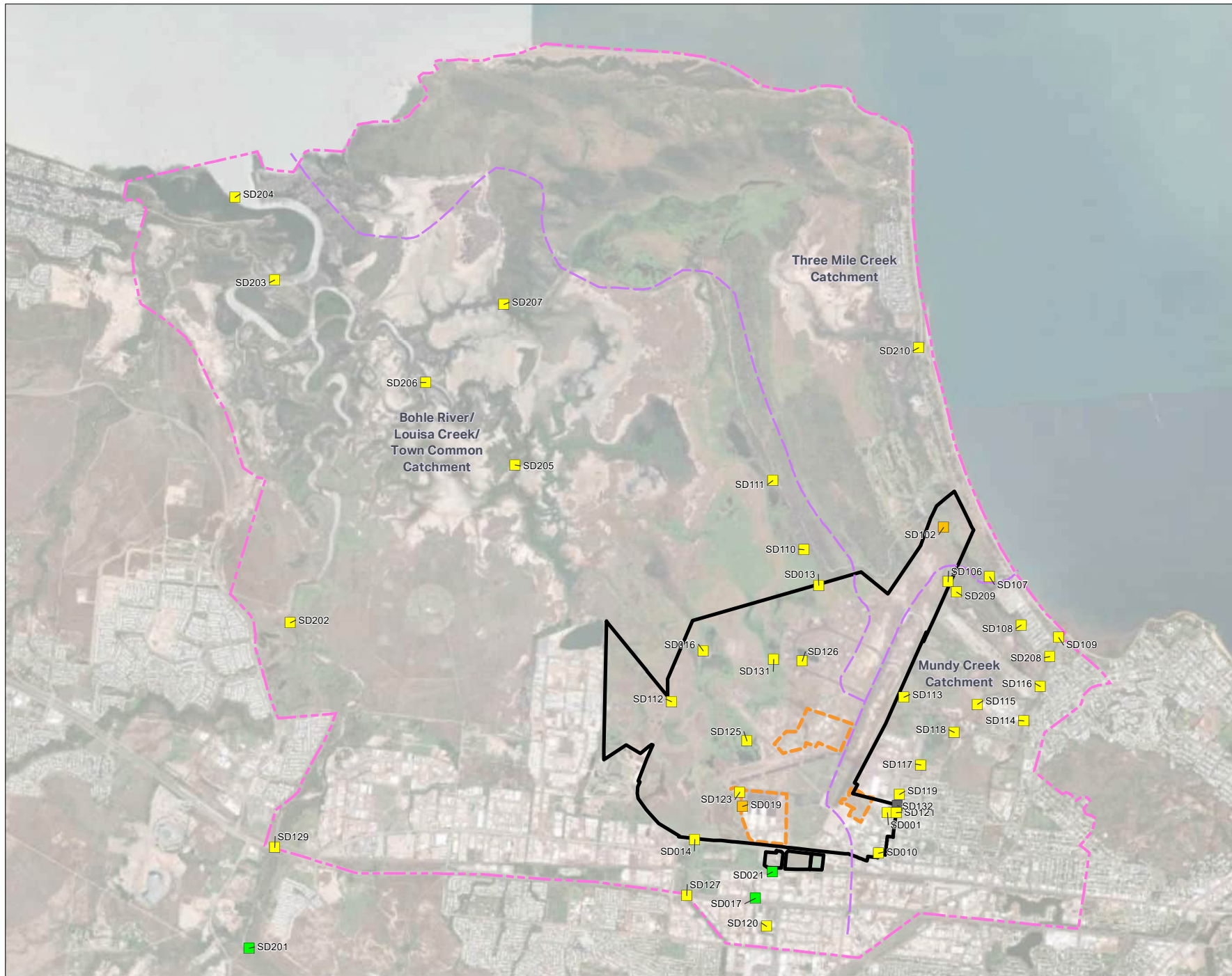
PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F20b
SEDIMENT
CONCENTRATION
OF PFOA –
OCTOBER 2021

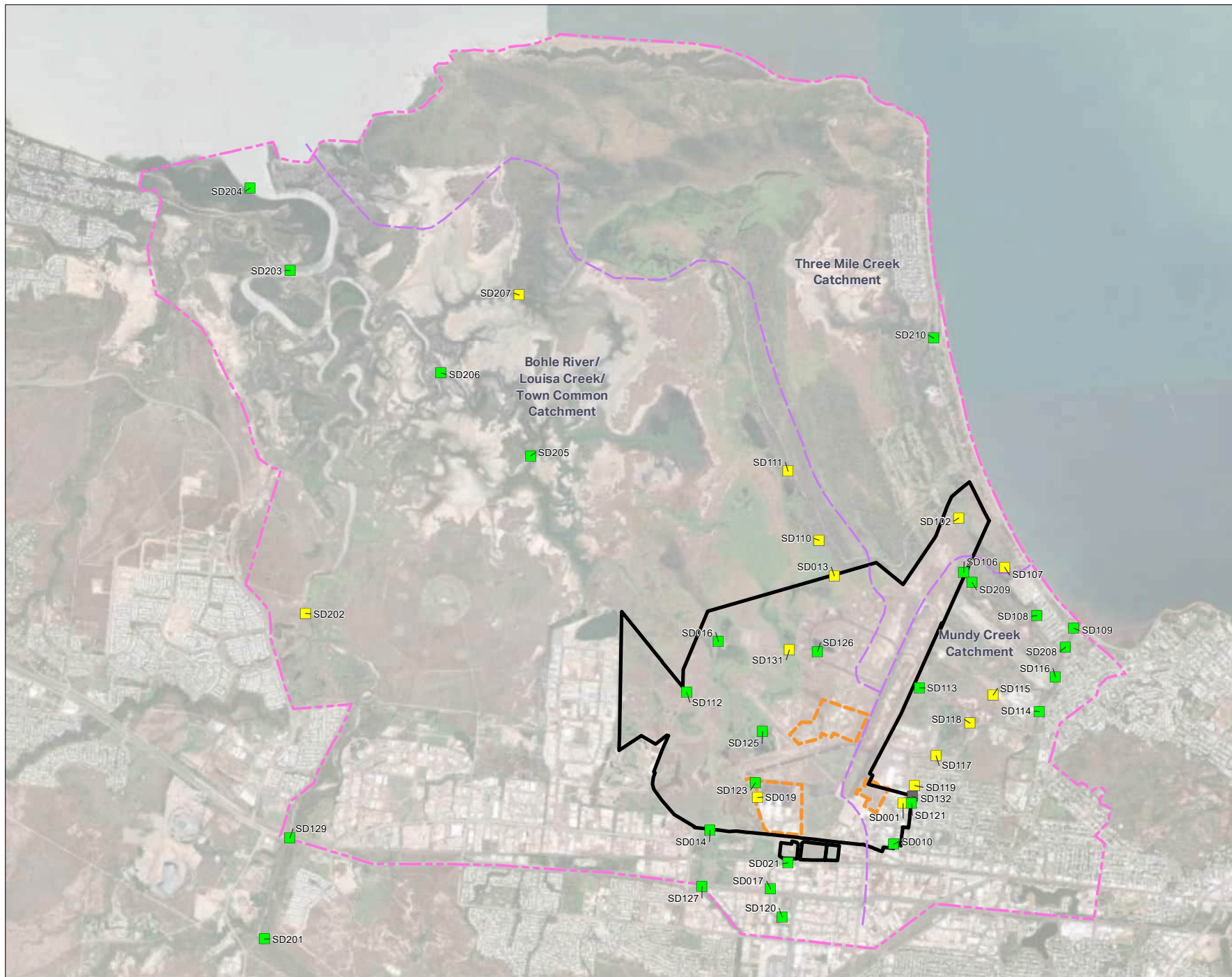
PROJECT NAME:
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of Sum of PFOS and PFHxS (mg/kg)

- ≥ 10 mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F21a
SEDIMENT
CONCENTRATION
OF SUM OF PFOS
AND PFHxS
APRIL 2022

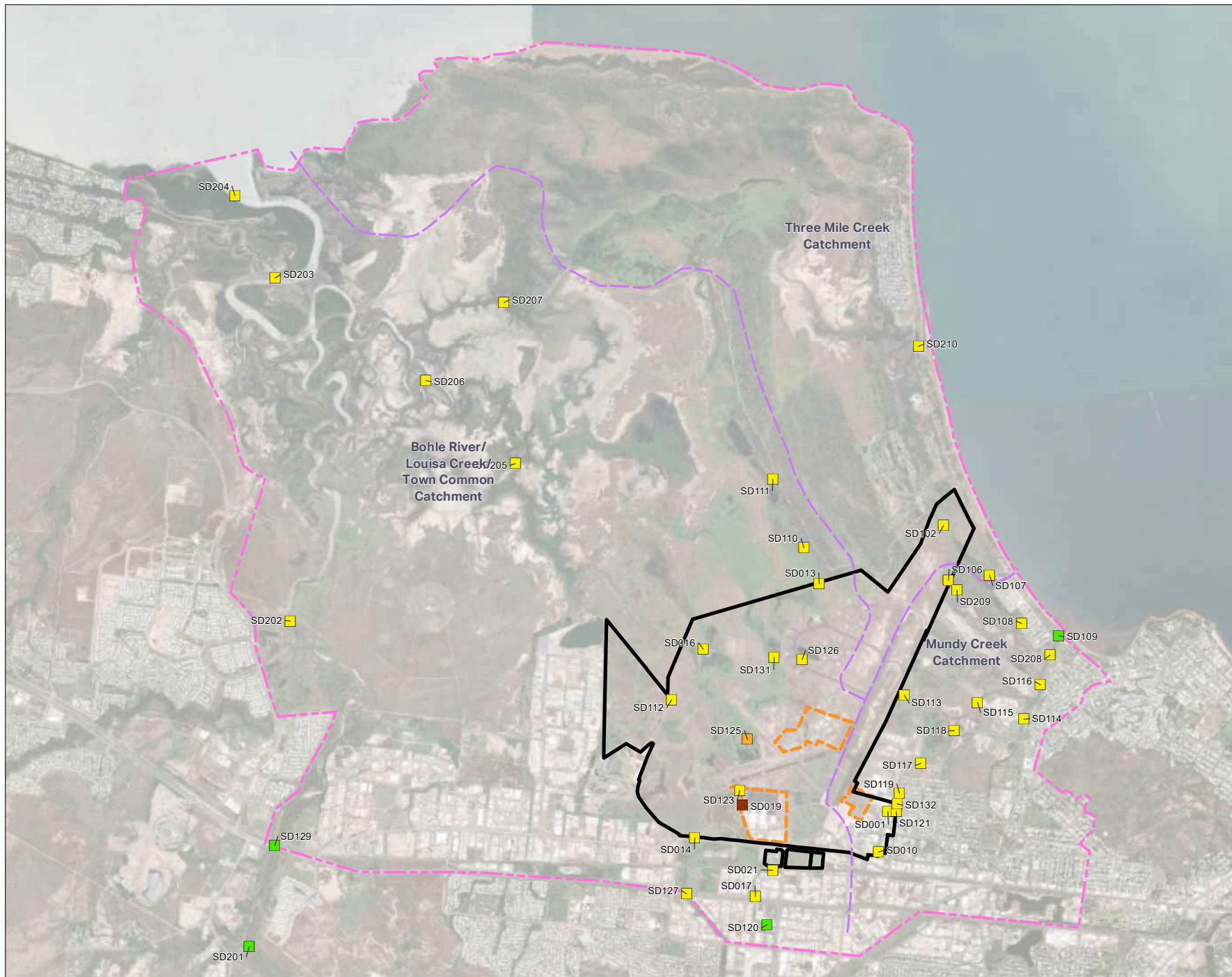
PROJECT NAME: PFAS OMP
REPORT NAME: Ongoing Monitoring Interpretive Report (December 2020 - May 2023) – RAAF Base Townsville (0874)
CLIENT NAME: Department of Defence
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA

- ≥ 10 mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F21b
SEDIMENT
CONCENTRATION
OF PFOA
APRIL 2022

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 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
 Report (December 2020 - May 2023) –
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F22a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2022

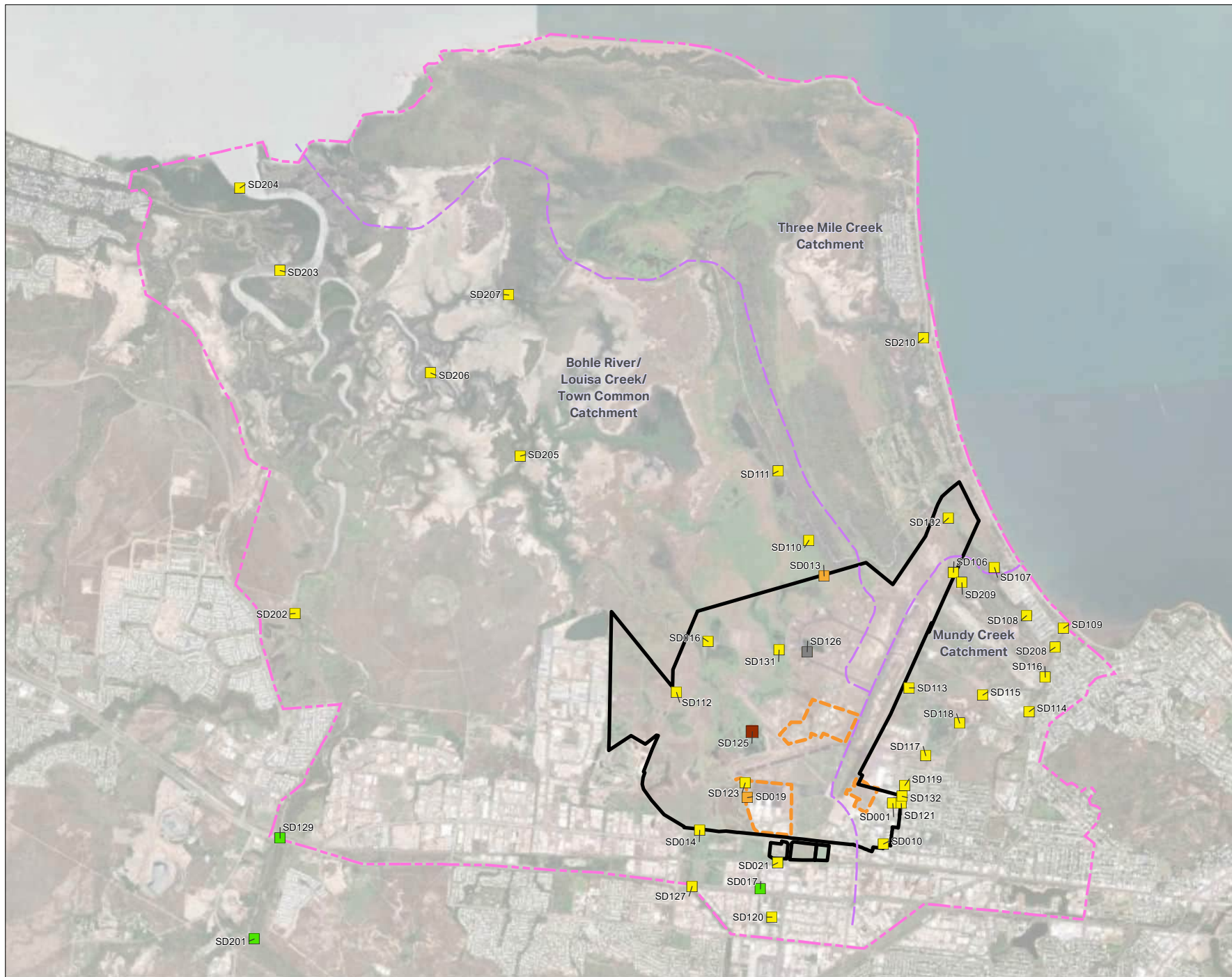
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F22b
SEDIMENT
CONCENTRATION
OF PFOA –
OCTOBER 2022

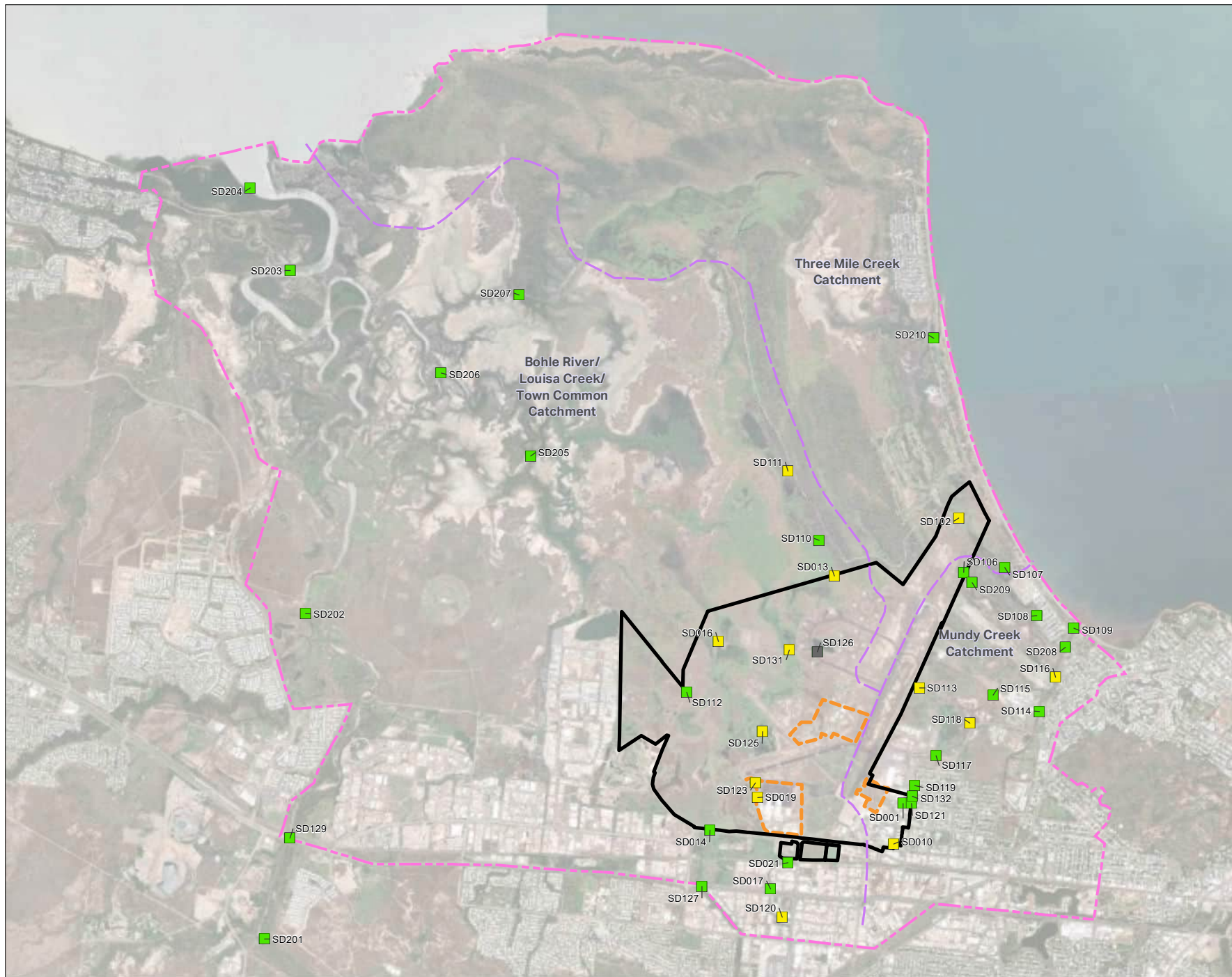
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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFHxS + PFOS (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F23a
SEDIMENT
CONCENTRATION OF
PFOS+PFHxS –
APRIL 2023

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Legend

- Monitoring Area
- Management Area
- Sub-Management Area
- Catchment Boundaries

Concentration of PFOA (mg/kg)

- ≥ 10mg/kg
- 1 - 10 mg/kg
- 0.3 - 1 mg/kg
- LOR - 0.3 mg/kg
- < LOR
- Location not sampled

FIGURE F23b
SEDIMENT
CONCENTRATION OF
PFOA – APRIL 2023

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 Ongoing Monitoring Interpretive
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Appendix B

Analytical Tables

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
Sub-Management Area 1											
MW013	17/08/2017	1.877	4.870	4.708	2.831	1.16	27.4	136	330.0	10858	6.90
	17/04/2018	1.145	4.872	4.708	3.563	0.99	29.5	50.3	244.3	13280	6.65
	18/12/2018	1.385	4.890	4.708	3.323	2.55	31.2	396.3	590.3	6604	7.10
	2/05/2019	1.256	4.872	4.708	3.452	1.57	29.1	100.3	294.3	6431	7.06
	15/10/2019	1.927	4.873	4.708	2.781	1.91	27.6	256.1	450.1	7146	6.95
	28/04/2020	2.930	4.569	4.708	1.778	2.20	30.1	-35.1	158.9	12016	6.97
	10/09/2020	1.990	4.860	4.708	2.718	1.84	26.3	104.2	298.2	18590	6.25
	6/05/2021	1.140	4.860	4.708	3.568	2.18	26.6	-110.9	83.1	10369	6.36
	11/10/2021	1.689	4.860	4.708	3.019	2.65	27.4	122.4	316.4	10534	6.74
	22/04/2022	1.505	4.870	4.708	3.203	1.45	29.0	62.1	256.1	10665	6.73
19/10/2022	1.545	4.870	4.708	3.163	0.73	26.9	5.8	199.8	11950	6.09	
April 2023	Unable to locate well due to construction work - covered in soil										
MW116	15/08/2017	1.755	4.410	5.254	3.499	0.57	27.8	153.5	347.5	3394	6.71
	17/04/2018	1.670	4.330	5.254	3.584	0.78	30.0	49.2	243.2	8917	6.95
	18/12/2018	1.629	4.330	5.254	3.625	2.06	31.6	378.1	572.1	681	7.13
	2/05/2019	1.690	4.330	5.254	3.564	0.56	29.5	112.1	306.1	9252	6.65
	15/10/2019	1.774	4.316	5.254	3.480	0.93	28.3	219.8	413.8	2266	6.52
	28/04/2020	1.695	4.267	5.254	3.559	3.44	32.6	-23.9	170.1	54.2	7.47
	11/09/2020	1.755	4.260	5.254	3.499	3.26	27.3	133.4	327.4	4596	6.28
	29/04/2021	1.625	4.270	5.254	3.629	2.05	29.0	-18.9	175.1	11698	6.43
	11/10/2021	2.733	4.270	5.254	2.521	2.50	27.9	-80.1	113.9	6502	6.94
	21/04/2022	1.852	4.640	5.254	3.402	2.43	30.6	66.8	260.8	14963	6.56
12/10/2022	Well Decommissioned										
MW118	17/08/2017	1.375	4.550	4.370	2.995	3.09	29.4	16	210.0	742	7.57
	17/04/2018	0.795	4.595	4.370	3.575	0.67	30.2	-120	74.0	653	6.94
	18/12/2018	1.125	4.605	4.370	3.245	0.70	32.8	220.1	414.1	684	7.16
	2/05/2019	0.823	4.595	4.370	3.547	0.73	29.7	-26.4	167.6	1057	7.76
	15/10/2019	1.416	4.620	4.370	2.954	0.68	29.7	-3.8	190.2	1127	6.79
	29/04/2020	1.022	4.604	4.370	3.348	2.80	31.1	-160.8	33.2	912	6.88
	10/09/2020	1.374	4.600	4.370	2.996	2.55	27.3	121.8	315.8	1603	6.87
	21/04/2021	0.773	4.600	4.488	3.715	2.92	29.7	-81.2	112.8	4059	7.10
	11/10/2021	1.399	4.600	4.488	3.089	2.63	29.2	-134.2	59.8	1299	7.05
	20/04/2022	1.240	4.570	4.488	3.248	2.46	31.8	60.3	254.3	641	6.85
12/10/2022	1.280	4.570	4.488	3.208	0.20	27.2	-119.2	74.8	985	7.76	
28/04/2023	0.673	4.520	4.488	3.815	2.97	29.3	-63	131.0	877	6.67	
MW126	15/08/2017	1.598	5.963	4.869	3.271	1.28	27.8	126.2	320.2	551	7.50
	17/04/2018	1.140	5.985	4.869	3.729	1.69	29.8	29	223.0	455.5	7.10
	18/12/2018	1.170	5.980	4.869	3.699	1.96	31.0	353.9	547.9	524	7.96
	2/05/2019	1.160	5.985	4.869	3.709	2.70	29.3	58.2	252.2	557	7.63
	15/10/2019	1.681	5.982	4.869	3.188	0.60	28.6	192.9	386.9	529	7.41
	28/04/2020	1.236	5.956	4.869	3.633	1.47	30.9	-146.2	47.8	762	7.59
	23/09/2020	1.650	5.900	4.869	3.219	2.13	28.6	91.2	285.2	548	7.42
	29/04/2021	1.093	5.930	4.869	3.776	2.11	29.0	-124.2	69.8	666	7.44
	11/10/2021	1.626	5.930	4.869	3.243	2.45	28.2	-143.7	50.3	956	7.71
	22/04/2022	1.229	5.670	4.869	3.640	5.85	26.9	165.5	359.5	86	6.57
12/10/2022	Well Decommissioned										
MW129	16/08/2017	1.465	5.987	4.648	3.183	2.10	28.2	115	309.0	350	6.95
	17/04/2018	0.925	5.970	4.648	3.723	1.66	30.2	15.8	209.8	282	7.30
	18/12/2018	1.062	5.965	4.648	3.586	2.92	32.8	377.2	571.2	445	7.45
	2/05/2019	1.190	4.900	4.648	3.458	0.76	28.6	103.3	297.3	2224	7.40
	15/10/2019	1.373	4.860	4.648	3.275	1.40	28.4	230.4	424.4	343.4	7.50
	29/04/2020	1.053	5.935	4.648	3.595	0.51	29.3	-3	191.0	671	6.63
	10/09/2020	1.511	5.930	4.648	3.137	2.51	27.3	107.2	301.2	932	6.71
	21/04/2021	0.738	5.930	4.648	3.910	3.69	29.5	3.4	197.4	425.4	7.11
	11/10/2021	1.517	5.930	4.648	3.131	1.84	28.4	-47.2	146.8	664	7.06
	20/04/2022	1.365	5.910	4.648	3.283	5.98	28.6	30.8	224.8	1349	6.61
12/10/2022	Well Decommissioned										
Sub-Management Area 2											
MW005	16/08/2017	2.703	7.536	3.922	1.219	1.08	27.0	16.3	210.3	69258	6.70
	16/04/2018	2.292	7.515	3.922	1.630	0.59	30.8	74.3	268.3	83451	6.48
	20/12/2018	2.090	7.520	3.922	1.832	1.00	30.0	161	355.0	78670	6.85
	30/04/2019	2.140	7.515	3.922	1.782	1.51	28.2	86.4	280.4	11682	6.75
	16/10/2019	2.513	7.529	3.922	1.409	1.30	27.3	163.2	357.2	60834	6.50
	27/04/2020	1.996	5.709	3.922	1.926	1.53	30.2	-20.7	173.3	69698	6.68
	7/09/2020	2.116	7.510	3.922	1.806	4.46	27.7	-134.5	59.5	65619	7.22
	29/04/2021	1.610	7.460	3.922	2.312	2.46	28.0	-62.9	131.1	39773	6.72
	14/10/2021	2.221	7.460	3.922	1.701	3.26	29.3	147.7	341.7	62439	6.99
	20/04/2022	2.015	5.720	3.922	1.907	4.77	26.8	-16.1	177.9	64130	6.64
	11/10/2022	2.272	5.720	3.922	1.650	1.51	28.4	130.1	324.1	70485	7.36
	26/04/2023	1.694	5.720	3.922	2.228	2.37	27.7	61.3	255.3	71314	6.66
MW015	16/08/2017	1.429	3.408	3.343	1.914	0.98	28.9	-12.7	181.3	10394	6.91
	16/04/2018	1.261	3.400	3.343	2.082	NR	30.2	80.2	274.2	33478	6.24
	19/12/2018	1.032	3.413	3.343	2.311	1.23	32.5	366.4	560.4	20425	6.42
	30/04/2019	1.255	3.400	3.343	2.088	0.88	28.8	204.3	398.3	35561	6.07
	16/10/2019	1.393	3.412	3.343	1.950	2.30	28.6	208.4	402.4	6407	7.01
	30/04/2020	1.287	3.404	3.343	2.056	1.91	29.1	53.8	247.8	39166	6.05
	7/09/2020	1.315	3.410	3.343	2.028	1.94	26.8	-182	12.0	18180	6.87
	29/04/2021	1.191	3.400	3.343	2.152	2.81	29.2	-53.4	140.6	28726	6.05
	12/10/2021	1.411	3.400	3.343	1.932	1.85	28.6	-15.8	178.2	8208	6.68
	21/04/2022	1.312	3.400	3.343	2.031	3.07	29.6	-45.3	148.7	19492	6.69
	11/10/2022	1.370	3.400	3.343	1.973	1.03	27.0	99.5	293.5	5748	7.93
	27/04/2023	1.183	3.407	3.343	2.160	3.48	33.4	255.9	449.9	36880	5.94
MW016	16/08/2017	1.374	3.552	3.450	2.076	0.69	30.9	-44.2	149.8	17906	6.42
	16/04/2018	1.238	3.550	3.450	2.212	NR	32.6	-15.4	178.6	18250	6.48
	19/12/2018	0.995	3.555	3.450	2.455	2.24	33.3	263.3	457.3	4128	6.91
	30/04/2019	1.208	3.550	3.450	2.242	4.37	30.5	-34.6	159.4	16483	6.30
	16/10/2019	1.393	3.556	3.450	2.057	1.57	31.8	-39.9	154.1	11058	6.41
	30/04/2020	1.192	3.548	3.450	2.258	1.52	31.3	-31	163.0	17240	6.36
	7/09/2020	1.267	3.550	3.450	2.183	1.84	28.7	-180.2	13.8	9388	6.69
	29/04/2021	1.176	3.550	3.450	2.274	2.69	31.6	-110	84.0	13596	6.37
	12/10/2021	1.346	3.550	3.450	2.104	1.48	30.2	-91.4	102.6	11056	6.33
	21/04/2022	1.266	3.550	3.450	2.184	1.87	31.3	-84.8	109.2	16582	6.50
	10/10/2022	1.352	3.550	3.450	2.098	1.08	29.6	-90.2	103.8	6922	7.57
	27/04/2023	1.167	3.543	3.450	2.283	2.76	34.2	-57.2	136.8	12394	6.45

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW021	16/08/2017	1.197	3.210	3.301	2.104	1.45	30.4	-37.8	156.2	5874	7.30
	16/04/2018	1.083	3.210	3.301	2.218	1.40	32.2	31.5	225.5	2153	7.79
	19/12/2018	0.893	3.220	3.301	2.408	0.73	33.1	303.7	497.7	1738	8.25
	30/04/2019	1.070	3.210	3.301	2.231	0.83	30.3	-74.7	119.3	1416	7.82
	16/10/2019	1.225	3.215	3.301	2.076	0.79	30.6	23.5	217.5	1584	7.20
	30/04/2020	1.177	3.250	3.301	2.124	1.45	32.5	-44.3	149.7	16677	7.03
	7/09/2020	1.196	3.250	3.301	2.105	2.25	27.9	-169.9	24.1	13468	6.91
	29/04/2021	0.995	3.250	3.301	2.306	1.72	30.8	-151.1	42.9	12265	6.78
	12/10/2021	1.392	3.250	3.301	1.909	2.06	30.1	-68.3	125.7	13913	6.72
	21/04/2022	1.249	3.250	3.301	2.052	2.26	31.6	-81.2	112.8	11282	6.87
11/10/2022	1.320	3.250	3.301	1.981	0.57	28.8	85.6	279.6	11409	7.60	
27/04/2023	0.996	3.260	3.301	2.305	2.55	33.9	35.4	229.4	8624	6.88	
MW046	16/08/2017	1.316	4.425	2.844	1.528	1.89	24.2	12.4	206.4	9597	7.42
	16/04/2018	0.861	4.410	2.844	1.983	NR	28.1	81.3	275.3	11375	7.64
	20/12/2018	1.100	4.425	2.844	1.744	1.36	28.8	120.3	314.3	14196	7.34
	30/04/2019	1.700	4.410	2.844	1.144	1.02	27.5	69.5	263.5	12425	7.58
	16/10/2019	1.410	4.426	2.844	1.434	0.34	27.4	220.1	414.1	11087	7.14
	27/04/2020	1.126	4.420	2.844	1.718	1.93	30.0	-64.6	129.4	15644	7.47
	7/09/2020	1.109	4.430	2.844	1.735	2.06	26.3	-168.4	25.6	13813	7.77
	28/04/2021	0.301	4.420	2.844	2.543	1.40	28.1	-104.1	89.9	11726	7.45
	11/10/2021	1.166	4.420	2.844	1.678	1.33	27.9	-15.7	178.3	10625	7.50
	20/04/2022	1.048	4.420	2.844	1.796	1.57	28.1	102.4	296.4	8789	7.54
10/10/2022	1.190	4.420	2.844	1.654	0.32	26.1	93.2	287.2	9186	8.14	
26/04/2023	0.692	4.420	2.844	2.152	4.03	29.2	42.5	236.5	4962	7.67	
MW054	15/08/2017	1.690	5.620	3.669	1.979	3.46	28.4	92.6	286.6	2963	8.34
	16/04/2018	1.109	5.620	3.669	2.560	1.19	30.8	44.7	238.7	5663	8.10
	18/12/2018	1.337	5.541	3.669	2.332	2.12	31.8	326.3	520.3	1553	8.43
	29/04/2019	1.252	5.620	3.669	2.417	4.38	29.9	42.6	236.6	2142	8.48
	16/10/2019	1.832	5.640	3.669	1.837	3.54	28.3	123.4	317.4	2286	8.46
	27/04/2020	1.399	5.625	3.669	2.270	2.04	30.8	21.4	215.4	9109	7.80
	7/09/2020	1.674	5.630	3.669	1.995	4.37	27.9	-179.5	14.5	4100	7.95
	28/04/2021	1.094	5.620	3.669	2.575	3.51	29.8	-105.1	88.9	7561	7.83
	13/10/2021	1.724	5.620	3.669	1.945	2.71	29.2	-72.7	121.3	3229	8.43
	21/04/2022	1.459	5.620	3.669	2.210	2.99	30.3	-128.4	65.6	4026	7.87
11/10/2022	1.612	5.620	3.669	2.057	0.83	28.4	86.8	280.8	3587	8.96	
26/04/2023	1.094	5.620	3.669	2.575	2.61	30.5	182.8	376.8	10594	7.56	
MW055	16/08/2017	1.700	4.905	3.563	1.863	1.02	27.4	149.2	343.2	14614	7.53
	16/04/2018	1.197	4.910	3.563	2.366	0.28	NR	47.1	241.1	15924	7.60
	18/12/2018	1.132	4.910	3.563	2.431	1.93	32.1	350.5	544.5	2121	7.77
	29/04/2019	1.262	4.910	3.563	2.301	1.40	30.6	55.8	249.8	4393	8.17
	16/10/2019	1.870	4.924	3.563	1.693	0.42	29.9	123.1	317.1	4255	7.97
	27/04/2020	1.479	4.911	3.563	2.084	3.71	30.0	88	282.0	10497	7.36
	7/09/2020	1.714	4.910	3.563	1.849	2.77	27.2	-192.5	1.5	12950	7.17
	28/04/2021	1.113	4.910	3.563	2.450	2.50	30.9	-133.2	60.8	3313	7.68
	13/10/2021	1.791	4.910	3.563	1.772	2.69	29.9	-112.1	81.9	6153	7.97
	21/04/2022	1.521	4.920	3.563	2.042	2.73	29.9	-138.9	55.1	4912	7.37
10/10/2022	1.660	4.920	3.563	1.903	0.59	28.9	-108.5	85.5	8301	8.39	
26/04/2023	1.107	4.920	3.563	2.456	2.59	31.5	88.4	282.4	5019	7.82	
MW081	16/08/2017	1.382	5.377	3.408	2.026	1.54	26.2	15	209.0	7570	7.27
	16/04/2018	0.803	5.350	3.408	2.605	NR	29.6	84.5	278.5	15487	7.88
	17/12/2018	0.795	5.325	3.408	2.613	3.43	31.1	398.2	592.2	3545	6.70
	30/04/2019	0.968	5.350	3.408	2.440	1.50	27.2	77.9	271.9	6780	7.62
	16/10/2019	1.515	5.323	3.408	1.893	0.89	28.2	155.8	349.8	9047	6.46
	27/04/2020	1.120	5.298	3.408	2.288	1.89	29.7	35	229.0	17416	7.30
	7/09/2020	1.288	5.280	3.408	2.120	2.37	28.9	-112.5	81.5	17705	7.31
	28/04/2021	0.622	5.070	3.408	2.786	3.08	27.7	6.4	200.4	5858	7.23
	11/10/2021	1.335	5.070	3.408	2.073	2.42	27.6	12.3	206.3	15615	7.22
	20/04/2022	1.176	4.950	3.408	2.232	4.61	27.3	-50.7	143.3	17096	6.91
11/10/2022	1.270	4.950	3.408	2.138	0.53	28.5	97.4	291.4	15895	7.98	
26/04/2023	0.773	4.950	3.408	2.635	1.68	30.4	57.6	251.6	10269	7.26	
MW090	16/08/2017	2.283	3.383	3.303	1.020	3.26	29.3	-58.2	135.8	5104	7.81
	16/04/2018	0.682	2.930	3.303	2.621	1.07	31.3	-92.1	101.9	1107	8.34
	20/12/2018	0.540	2.950	3.303	2.763	1.64	32.4	56.3	250.3	1402	8.04
	30/04/2019	0.565	2.930	3.303	2.738	1.75	29.7	19	213.0	1932	8.32
	16/10/2019	0.575	2.952	3.303	2.728	1.35	29.5	162.1	356.1	1173	8.11
	27/04/2020	0.557	2.942	3.303	2.746	1.85	33.6	-153.1	40.9	1147	7.92
	7/09/2020	0.568	2.940	3.303	2.735	1.98	29.5	-223.5	-29.5	1250	8.16
	28/04/2021	0.565	2.950	3.303	2.738	2.48	28.7	-34.6	159.4	538	8.01
	11/10/2021	0.964	2.950	3.303	2.339	1.68	29.5	-49.4	144.6	957	8.29
	20/04/2022	0.752	2.880	3.303	2.551	4.42	27.6	-78.8	115.2	1417	8.18
11/10/2022	0.720	2.880	3.303	2.583	1.09	31.2	95	289.0	1598	8.41	
26/04/2023	1.020	2.880	3.303	2.283	3.39	30.7	21.7	215.7	5380	7.72	
MW109	16/08/2017	1.555	5.830	3.255	1.700	3.35	26.4	240.1	434.1	33260	7.22
	16/04/2018	1.204	5.840	3.255	2.051	2.31	29.0	74.1	268.1	30287	7.48
	19/12/2018	0.833	5.850	3.255	2.422	3.04	30.1	374.3	568.3	20058	7.71
	29/04/2019	1.162	5.840	3.255	2.093	4.13	27.9	83.2	277.2	19194	7.64
	17/10/2019	1.517	5.850	3.255	1.738	3.24	28.4	113.4	307.4	18145	7.52
	27/04/2020	1.394	5.843	3.255	1.861	1.72	29.6	67	261.0	48777	6.82
	11/09/2020	1.504	5.840	3.255	1.751	2.92	26.0	145.6	339.6	35958	6.71
	29/04/2021	1.032	5.830	3.255	2.223	1.76	28.5	-106.5	87.5	36471	6.80
	13/10/2021	1.700	5.830	3.255	1.555	3.32	27.3	-25.9	168.1	20505	7.62
	21/04/2022	1.491	5.840	3.255	1.764	2.23	27.8	-91.4	102.6	27654	6.74
11/10/2022	1.565	5.840	3.255	1.690	0.59	25.6	114.7	308.7	34728	7.53	
26/04/2023	1.170	5.840	3.255	2.085	2.84	29.3	-73.3	120.7	22470	7.37	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH	
MW110	15/08/2017	1.160	4.880	2.853	1.693	2.36	26.6	213.5	407.5	43179	6.74	
	16/04/2018	0.937	4.490	2.853	1.916	0.82	28.7	77.5	271.5	42378	6.79	
	18/12/2018	0.775	4.897	2.853	2.078	2.35	31.8	363.4	557.4	18136	7.34	
	29/04/2019	0.672	4.490	2.853	2.181	0.84	26.7	103.8	297.8	33972	7.06	
	17/10/2019	1.192	4.910	2.853	1.661	1.22	26.6	146.3	340.3	28555	7.09	
	27/04/2020	0.945	4.891	2.853	1.908	1.43	30.7	17.1	211.1	47277	6.79	
	11/09/2020	1.012	4.900	2.853	1.841	2.20	26.1	93	287.0	50257	6.19	
	29/04/2021	0.576	4.890	2.853	2.277	3.22	28.7	-63.8	130.2	3082	7.65	
	13/10/2021	1.220	4.890	2.853	1.633	1.73	30.4	-50.1	143.9	47518	6.37	
	21/04/2022	0.994	4.680	2.853	1.859	1.22	29.8	-132.2	61.8	44496	6.39	
12/10/2022	1.102	4.680	2.853	1.751	0.60	27.5	83.3	277.3	11148	7.52		
26/04/2023	0.673	4.680	2.853	2.180	2.27	28.8	-59.3	134.7	9710	6.82		
MW138	15/08/2017	1.360	5.957	2.903	1.543	1.72	26.6	-12	182.0	62528	6.39	
	16/04/2018	0.614	5.980	2.903	2.289	2.31	29.6	51.1	245.1	673	7.38	
	30/04/2019	0.656	5.980	2.903	2.247	2.03	27.2	229.8	423.8	242.7	5.87	
	16/10/2019	1.240	4.990	2.903	1.663	4.60	26.8	124.5	318.5	3840	7.46	
	27/04/2020	0.949	5.980	2.903	1.954	1.36	29.3	-68.5	125.5	26381	6.99	
	7/09/2020	1.053	5.970	2.903	1.850	3.19	27.3	-196.8	-2.8	34603	6.53	
	29/04/2021	0.549	5.990	2.903	2.354	3.04	28.4	-125	69.0	2027	7.33	
	12/10/2021	1.255	5.990	2.903	1.648	2.71	27.0	-93.9	100.1	9570	6.95	
	21/04/2022	1.007	5.980	2.903	1.896	1.44	30.3	-158.8	35.2	19047	6.78	
	12/10/2022	1.280	5.980	2.903	1.623	0.27	26.7	-30.9	163.1	31502	7.53	
26/04/2023	1.468	5.980	2.903	1.435	2.96	29.0	-84.2	109.8	39537	6.88		
MW139	15/08/2017	1.605	5.995	3.443	1.838	1.21	28.4	49	243.0	60306	6.93	
	16/04/2018	1.202	6.000	3.443	2.241	1.25	30.1	25.2	219.2	25970	7.64	
	19/12/2018	0.922	6.010	3.443	2.521	1.58	30.4	389.9	583.9	25801	7.49	
	30/04/2019	1.149	6.000	3.443	2.294	1.35	28.5	243.1	437.1	26288	6.95	
	16/10/2019	1.588	6.015	3.443	1.855	1.21	28.0	142.2	336.2	21953	7.15	
	27/04/2020	1.403	6.004	3.443	2.040	1.51	30.8	-15	179.0	38985	7.24	
	7/09/2020	1.995	6.000	3.443	1.448	1.31	28.7	-262.2	-68.2	44764	6.56	
	29/04/2021	1.072	6.020	3.443	2.371	1.26	29.7	-192.5	1.5	44070	6.96	
	12/10/2021	1.630	6.020	3.443	1.813	1.92	27.9	-164.2	29.8	15794	6.90	
	21/04/2022	1.475	5.990	3.443	1.968	1.76	30.9	-131.4	62.6	42811	6.59	
12/10/2022	1.700	5.990	3.443	1.743	0.86	28.2	82	276.0	27497	7.69		
26/04/2023	1.039	5.990	3.443	2.404	3.13	31.2	8.1	202.1	19623	7.28		
MW246	16/08/2017	1.755	7.727	3.901	2.146	1.47	28.2	-19.6	174.4	36400	6.55	
	17/04/2018	1.233	7.700	3.901	2.668	1.91	31.8	11.5	205.5	28137	6.78	
	17/12/2018	1.305	7.530	3.901	2.596	NR	31.8	436.1	630.1	3421	6.06	
	1/05/2019	1.248	7.700	3.901	2.653	1.92	29.3	105.4	299.4	34108	6.07	
	15/10/2019	1.876	7.412	3.901	2.025	1.13	28.8	118.9	312.9	34825	5.81	
	27/04/2020	1.456	7.196	3.901	2.445	2.15	29.3	47	241.0	46907	6.27	
	7/09/2020	1.748	7.470	3.901	2.153	1.92	27.2	-95.1	98.9	40455	6.17	
	30/04/2021	1.149	7.370	3.901	2.752	1.71	29.1	81.1	275.1	46791	6.26	
	13/10/2021	1.819	7.370	3.901	2.082	3.13	29.0	16.6	210.6	43153	6.13	
	12/04/2022	1.574	7.160	3.901	2.327	1.46	30.6	85.5	279.5	43600	6.19	
11/10/2022	1.655	7.160	3.901	2.246	Insufficient water for parameters							
26/04/2023	1.103	7.160	3.901	2.798	3.00	30.0	122.1	316.1	46458	6.24		
MW250	15/08/2017	2.175	6.000	3.916	1.741	1.98	27.2	204.7	398.7	31117	7.11	
	16/04/2018	1.649	5.780	3.916	2.267	-	29.3	145.4	339.4	12231	7.43	
	19/12/2018	1.651	5.450	3.916	2.265	3.58	29.9	380.4	574.4	14754	7.56	
	29/04/2019	1.720	5.780	3.916	2.196	1.70	27.1	82.9	276.9	3651	7.29	
	17/10/2019	2.282	5.277	3.916	1.634	1.94	26.7	136.6	330.6	6052	7.36	
	29/04/2020	1.885	5.222	3.916	2.031	0.47	27.1	30.5	224.5	4835	7.22	
	10/09/2020	1.149	5.200	3.916	2.767	2.85	25.3	201.6	395.6	13113	6.70	
	21/04/2021	1.691	5.200	3.916	2.225	2.10	27.1	185.4	379.4	3578	6.81	
	11/10/2021	2.245	5.200	3.916	1.671	2.38	27.6	50.4	244.4	10766	7.29	
	20/04/2022	2.074	5.020	3.916	1.842	1.06	30.4	45.2	239.2	56942	6.03	
12/10/2022	2.105	5.020	3.916	1.811	0.82	25.3	124.1	318.1	5067	7.63		
28/04/2023	1.684	5.030	3.916	2.232	3.01	30.1	46	240.0	2330	7.00		
MW251	15/08/2017	1.678	7.332	3.440	1.762	2.57	27.0	6.3	200.3	27537	6.61	
	16/04/2018	1.190	7.280	3.440	2.250	0.32	30.1	132.1	326.1	32103	6.69	
	19/12/2018	0.983	7.195	3.440	2.457	2.15	31.2	388	582.0	18719	6.88	
	29/04/2019	1.245	7.280	3.440	2.195	0.76	28.1	120	314.0	38014	6.44	
	17/10/2019	1.846	7.265	3.440	1.594	0.76	28.0	171	365.0	30982	6.46	
	29/04/2020	1.449	7.195	3.440	1.991	0.31	28.6	89.9	283.9	41467	6.29	
	10/09/2020	0.691	7.180	3.440	2.749	1.83	25.8	173.5	367.5	42236	6.17	
	29/04/2021	0.953	7.120	3.440	2.487	2.08	28.8	60.4	254.4	40400	6.18	
	11/10/2021	1.743	7.120	3.440	1.697	1.83	28.5	48.9	242.9	41690	6.47	
	20/04/2022	1.540	7.600	3.440	1.900	1.06	30.4	45.2	239.2	56942	6.03	
11/10/2022	1.640	7.600	3.440	1.800	0.34	27.1	124.9	318.9	36585	7.12		
28/04/2023	1.082	7.030	3.440	5.948	2.18	30.8	128.7	322.7	49959	6.27		
Sub-Management Area 3												
MW009	17/08/2017	1.150	4.792	3.520	2.370	1.67	26.9	22.3	216.3	19511	6.35	
	18/04/2018	0.830	4.930	3.520	2.690	1.38	21.5	43.1	237.1	17776	6.56	
	1/05/2019	0.840	4.930	3.520	2.680	1.09	29.2	139.2	333.2	21310	6.64	
	15/10/2019	1.180	4.804	3.520	2.340	1.40	27.4	201.8	395.8	20882	6.39	
	28/04/2020	0.937	4.793	3.520	2.583	2.20	28.5	-21.7	172.3	21967	6.62	
	10/09/2020	1.095	4.790	3.520	2.425	3.04	25.8	103.1	297.1	23777	6.17	
	29/04/2021	0.821	4.680	3.634	2.813	1.92	29.1	24.6	218.6	27666	6.45	
	13/10/2021	1.085	4.680	3.634	2.549	2.16	30.1	29.8	223.8	24311	6.30	
	13/04/2022	1.013	4.640	3.634	2.621	1.75	31.0	54.3	248.3	27941	6.56	
	10/10/2022	1.034	4.640	3.634	2.600	0.56	25.5	169.9	363.9	23334	6.53	
4/05/2023	0.884	4.790	3.520	2.636	3.41	31.4	89.7	283.7	35086	6.54		
MW038	17/08/2017	1.075	4.700	4.734	3.659	1.04	29.3	110.6	304.6	3612	7.83	
	19/04/2018	0.745	4.700	4.734	3.989	1.11	28.7	39.1	233.1	2745	7.01	
	2/05/2019	0.795	4.700	4.734	3.939	1.30	30.2	85.8	279.8	1929	8.52	
	15/10/2019	1.052	4.707	4.734	3.682	0.43	31.4	115.9	309.9	2495	7.72	
	28/04/2020	0.861	4.705	4.734	3.873	2.78	29.9	-85.5	108.5	4936	7.73	
	11/09/2020	1.041	4.710	4.734	3.693	2.78	27.7	273.3	467.3	4611	6.51	
	29/04/2021	0.526	4.630	4.734	4.208	2.15	28.9	-102	92.0	2288	8.08	
	11/10/2021	0.758	4.630	4.734	3.976	2.80	29.6	-21.4	172.6	3877	8.19	
	21/04/2022	0.772	5.630	4.734	3.962	2.33	31.8	-26.0	168.0	2231	7.85	
	11/10/2022	0.800	5.630	4.734	3.934	0.68	29.6	81.9	275.9	5336	8.15	
4/05/2023	0.540	4.600	4.734	4.194	3.07	31.5	-137.8	56.2	8521	7.89		

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW043	17/08/2017	1.284	5.873	3.613	2.329	4.98	26.7	72.7	266.7	39902	6.48
	19/04/2018	0.908	6.880	3.613	2.705	2.34	29.2	61.5	255.5	16736	7.03
	1/05/2019	0.820	6.880	3.613	2.793	1.22	28.5	109.6	303.6	14168	7.08
	15/10/2019	1.385	5.863	3.613	2.228	2.80	27.5	179.5	373.5	12482	7.15
	28/04/2020	1.085	5.823	3.613	2.528	1.67	27.9	74.2	268.2	49909	6.45
	10/09/2020	1.299	5.810	3.613	2.314	1.08	26.7	-59.4	134.6	41406	6.41
	29/04/2021	0.800	5.780	3.613	2.813	1.02	28.2	-189.1	4.9	18852	-
	11/10/2021	1.256	5.780	3.613	2.357	2.29	28.3	-26.8	167.2	66270	6.62
	13/04/2022	1.084	5.730	3.613	2.529	1.56	30.2	-49.5	144.5	23735	6.91
	11/10/2022	1.180	5.730	3.613	2.433	0.78	27.3	123.5	317.5	51159	7.18
28/04/2023	0.844	5.710	3.613	2.769	2.35	30.7	-55.9	138.1	62293	6.40	
MW114	15/08/2017	1.430	5.405	3.325	1.895	2.54	26.9	164	358.0	18944	6.04
	19/04/2018	1.165	5.380	3.325	2.160	0.12	28.2	71.9	265.9	3981	7.35
	17/12/2018	0.604	5.385	3.325	2.721	0.73	29.4	-118.2	75.8	11201	6.44
	1/05/2019	1.158	5.380	3.325	2.167	4.74	29.3	56.2	250.2	2594	7.85
	16/10/2019	1.587	5.390	3.325	1.738	1.33	27.1	199.7	393.7	3790	6.22
	30/04/2020	1.267	5.355	3.325	2.058	2.22	30.5	-37.1	156.9	7435	6.36
	10/09/2020	1.356	5.340	3.325	1.969	2.09	25.4	117.7	311.7	5239	6.11
	28/04/2021	1.006	5.200	3.325	2.319	3.80	25.5	-13.5	180.5	2624	6.87
	13/10/2021	1.384	5.200	3.325	1.941	2.87	27.7	-76.8	117.2	4684	6.64
	12/04/2022	1.284	5.170	3.325	2.041	1.68	29.7	-6.0	188.0	2532	6.85
11/10/2022	1.325	5.170	3.325	2.000	0.53	26.2	33.3	227.3	15291	6.67	
28/04/2023	1.084	5.150	3.325	2.241	2.74	29.3	-69.9	124.1	4400	6.77	
MW125	17/08/2017	2.095	10.087	4.617	2.522	4.12	28.2	-35.3	158.7	24662	6.87
	18/04/2018	1.708	10.020	4.617	2.909	1.36	29.9	32.9	226.9	13097	6.95
	1/05/2019	1.730	10.020	4.617	2.887	1.89	29.3	98.5	292.5	9142	7.32
	15/10/2019	1.940	10.005	4.617	2.677	4.47	27.4	156.2	350.2	4320	7.21
	28/04/2020	1.766	9.932	4.617	2.851	1.43	28.2	-1.9	192.1	92462	5.44
	10/09/2020	1.843	9.940	4.617	2.774	1.93	25.8	130.7	324.7	87650	5.25
	29/04/2021	1.586	9.920	4.617	3.031	1.60	28.2	-127.4	66.6	20999	6.28
	13/10/2021	1.854	9.920	4.617	2.763	2.40	28.9	-71	123.0	56270	6.05
	20/04/2022	1.825	9.720	4.617	2.792	3.57	26.6	-41.6	152.4	83724	6.73
	11/10/2022	1.900	9.720	4.617	2.717	0.65	28.8	117.4	311.4	68388	6.33
4/05/2023	1.673	9.650	4.617	2.944	2.62	30.5	-16.2	177.8	105933	6.02	
MW142	17/08/2017	1.087	6.110	3.169	2.082	4.13	27.2	157	351.0	30441	7.16
	19/04/2018	0.800	6.905	3.169	2.369	NR	29.1	162.1	356.1	53198	6.56
	17/12/2018	0.440	6.110	3.169	2.729	0.77	30.1	412.7	606.7	52748	6.57
	1/05/2019	0.754	6.905	3.169	2.415	2.94	29.2	110	304.0	52396	NR
	16/10/2019	1.282	6.105	3.169	1.887	0.65	28.4	256.7	450.7	47279	5.87
	29/04/2020	1.019	6.103	3.169	2.150	0.45	27.2	49.5	243.5	58404	6.34
	10/09/2020	1.179	6.100	3.169	1.990	3.45	26.2	NR	NR	48095	5.66
	21/04/2021	0.815	6.100	3.169	2.354	1.92	28.1	169.9	363.9	53953	6.17
	11/10/2021	1.211	6.100	3.169	1.958	1.41	29.7	64.2	258.2	60348	6.30
	20/04/2022	1.040	6.110	3.169	2.129	1.06	30.4	45.2	239.2	56942	6.03
12/10/2022	1.025	6.110	3.169	2.144	2.44	26.7	142.8	336.8	6237	7.40	
28/04/2023	0.675	6.100	3.169	2.494	2.09	29.4	107.8	301.8	68701	6.18	
MW247	16/08/2017	1.665	4.300	4.399	2.734	0.86	26.1	127.3	321.3	1242	6.73
	19/04/2018	1.203	4.300	4.399	3.196	1.88	28.4	61.3	255.3	1009	6.60
	19/12/2018	0.840	4.210	4.399	3.559	3.37	30.1	148	342.0	1470	6.94
	1/05/2019	1.180	4.300	4.399	3.219	1.73	29.0	103.3	297.3	1124	7.28
	18/10/2019	2.160	4.212	4.399	2.239	2.53	27.7	137.9	331.9	921	6.68
	28/04/2020	1.377	4.195	4.399	3.022	2.10	28.4	-22.1	171.9	411.3	6.40
	10/09/2020	1.838	4.220	4.399	2.561	2.63	25.6	138.4	332.4	717	6.28
	29/04/2021	0.951	4.140	4.399	3.448	3.04	27.5	25.8	219.8	1388	6.68
	11/10/2021	1.821	4.140	4.399	2.578	1.97	27.6	34.7	228.7	790	6.58
	21/04/2022	1.585	4.140	4.399	2.814	2.01	28.4	52.4	246.4	891	6.57
10/10/2022	1.740	4.140	4.399	2.659	0.87	26.4	144.5	338.5	1719	7.31	
4/05/2023	1.122	4.090	4.399	3.277	3.84	28.4	-15.3	178.7	1223	7.27	
MW248	17/08/2017	1.570	3.880	3.943	2.373	0.47	27.2	124.6	318.6	16634	7.35
	19/04/2018	1.229	3.900	3.943	2.714	1.28	26.2	58.1	252.1	16753	7.34
	1/05/2019	1.170	3.900	3.943	2.773	1.49	28.0	203.1	397.1	16288	7.29
	15/10/2019	1.745	3.724	3.943	2.198	0.69	27.3	194.7	388.7	15815	7.02
	28/04/2020	1.402	3.650	3.943	2.541	2.46	28.7	-43.8	150.2	18960	7.29
	10/09/2020	1.624	3.670	3.943	2.319	2.22	27.0	166.7	360.7	21232	6.67
	6/05/2021	1.192	3.810	3.943	2.751	2.12	27.3	209.12	403.1	13463	7.57
	11/10/2021	1.575	3.810	3.943	2.368	1.69	27.8	121.6	315.6	19598	6.82
	21/04/2022	1.458	3.610	3.943	2.485	2.66	28.4	29.9	223.9	15871	7.01
	11/10/2022	1.500	3.610	3.943	2.443	0.62	27.1	104.9	298.9	16010	7.66
4/05/2023	0.074	3.590	3.943	3.869	3.38	28.4	-87	107.0	12965	7.51	
MW249	17/08/2017	1.320	10.060	4.371	3.051	5.18	26.1	118.5	312.5	1947	7.79
	19/04/2018	0.764	10.030	4.371	3.607	1.53	32.6	29	223.0	201.6	8.03
	1/05/2019	0.648	10.030	4.371	3.723	3.47	28.8	89.9	283.9	1387	8.04
	28/04/2020	1.055	9.674	4.371	3.316	2.19	29.7	-26.3	167.7	7096	6.70
Remaining On-Base											
MW002	15/08/2017	0.697	4.670	1.866	1.169	3.06	25.6	28.2	222.2	1411	6.49
	18/04/2018	0.394	4.680	1.866	1.472	1.24	28.9	-50.2	143.8	19221	6.40
	19/12/2018	0.200	4.680	1.866	1.666	0.69	29.5	268.6	462.6	25701	6.12
	30/04/2019	0.444	4.680	1.866	1.422	1.64	28.7	-6.7	187.3	1829	6.89
	18/10/2019	1.260	4.675	1.866	0.606	0.20	26.1	-26.6	167.4	2256	6.08
	29/04/2020	0.715	4.668	1.866	1.151	0.75	29.7	-55.8	138.2	1658	6.24
	9/09/2020	0.811	4.670	1.866	1.055	2.47	25.0	-222.4	-28.4	18190	6.33
	28/04/2021	0.052	4.670	1.866	1.814	2.83	27.4	-45.5	148.5	26039	6.34
	12/10/2021	1.012	4.670	1.866	0.854	2.75	27.1	-89.1	104.9	3490	6.49
	13/04/2022	0.646	4.680	1.866	1.220	2.43	28.8	-64.7	129.3	2504	6.84
	10/10/2022	0.566	4.680	1.866	1.300	0.42	25.6	-71.6	122.4	3282	7.64
	27/04/2023	0.000	4.680	1.866	1.866	1.80	29.5	-92.7	101.3	36468	6.46

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH	
MW004	17/08/2017	2.017	5.175	3.181	1.164	0.31	27.5	46.2	240.2	1504	6.44	
	17/04/2018	1.110	5.266	3.181	2.071	0.98	29.3	11.6	205.6	1006	6.52	
	19/12/2018	1.205	5.260	3.181	1.976	1.57	30.3	121.7	315.7	799	7.68	
	30/04/2019	1.158	5.266	3.181	2.023	1.86	27.4	139.3	333.3	719	7.02	
	18/10/2019	2.074	5.265	3.181	1.107	0.37	27.5	93.1	287.1	425.9	6.58	
	29/04/2020	1.535	5.255	3.181	1.646	1.59	30.8	48.4	242.4	502	6.13	
	9/09/2020	1.969	5.260	3.181	1.212	3.25	25.8	-134.8	59.2	1558	6.33	
	28/04/2021	0.907	5.240	3.181	2.274	3.76	27.1	-20.3	173.7	7174	6.50	
	12/10/2021	2.001	5.240	3.181	1.180	2.13	28.7	-62.9	131.1	924	7.41	
	13/04/2022	1.774	5.230	3.181	1.407	2.33	29.8	45.1	239.1	1330	7.36	
	10/10/2022	1.805	5.230	3.181	1.376	No field parameters						
27/04/2023	1.048	5.230	3.181	2.133	3.26	28.8	-20.2	173.8	6959	6.37		
MW026	17/08/2017	1.989	4.902	5.164	3.175	0.16	29.6	14.1	208.1	4279	7.11	
	18/04/2018	1.526	4.900	5.164	3.638	0.82	33.5	13.3	207.3	4134	7.01	
	2/05/2019	1.070	4.900	5.164	4.094	1.04	31.5	107.7	301.7	3651	7.16	
	14/10/2019	1.830	4.900	5.164	3.334	0.69	30.3	226.4	420.4	3277	7.04	
	28/04/2020	1.205	4.881	5.164	3.959	2.07	31.6	-24.4	169.6	3354	7.21	
	23/09/2020	1.138	4.840	5.164	4.026	1.96	28.2	14.2	208.2	977	7.48	
	30/04/2021	1.465	4.860	5.164	3.699	2.42	30.2	-106.5	87.5	793	7.89	
	13/10/2021	1.697	4.860	5.164	3.467	2.04	32.0	-40.3	153.7	1036	7.97	
	21/04/2022	1.644	4.890	5.164	3.520	3.57	32.7	35.1	229.1	1805	7.89	
	13/10/2022	1.742	4.890	5.164	3.422	1.79	28.8	116.6	310.6	677	7.57	
	4/05/2023	1.439	4.870	5.164	3.725	2.70	32.8	-100.4	93.6	1344	7.55	
MW033	18/08/2017	2.383	3.950	5.860	3.477	4.45	30.0	76.6	270.6	949	7.83	
	17/04/2018	2.220	3.945	5.860	3.640	1.34	31.4	2.9	196.9	860	8.01	
	18/12/2018	0.705	3.953	5.860	5.155	3.46	33.3	357.6	551.6	427.2	7.23	
	2/05/2019	3.905	3.945	5.860	1.955	3.32	31.5	77.9	271.9	890	8.15	
	15/10/2019	2.390	3.956	5.860	3.470	1.85	30.2	175.2	369.2	1200	7.28	
	28/04/2020	2.264	4.951	5.860	3.596	3.73	31.0	-31.4	162.6	737	7.80	
	11/09/2020	2.368	3.950	5.860	3.492	4.81	29.1	90.9	284.9	1586	7.35	
	30/04/2021	1.725	3.950	5.860	4.135	7.10	29.9	-14.3	179.7	599	8.06	
	11/10/2021	2.317	3.950	5.860	3.543	3.32	30.2	10.8	204.8	1224	7.98	
	21/04/2022	2.308	3.930	5.860	3.552	7.20	31.2	9.5	203.5	1455	7.67	
	13/10/2022	2.352	3.930	5.860	3.508	0.85	30.9	111.3	305.3	1290	8.28	
4/05/2023	2.215	3.920	5.860	3.645	4.41	32.3	-49	145.0	1502	8.14		
MW034	18/08/2017	2.043	3.920	5.434	3.391	0.56	30.7	75.6	269.6	20253	6.61	
	17/04/2018	1.708	3.902	5.434	3.726	0.99	32.4	53.8	247.8	11801	6.51	
	18/12/2018	1.450	3.914	5.434	3.984	1.36	34.7	347.7	541.7	11432	6.66	
	2/05/2019	1.804	3.902	5.434	3.630	1.05	30.6	131.2	325.2	14647	6.70	
	15/10/2019	2.083	3.915	5.434	3.351	0.73	30.5	208.2	402.2	15687	6.23	
	28/04/2020	1.859	3.900	5.434	3.575	2.30	31.7	0.2	194.2	101.4	7.32	
	11/09/2020	2.019	3.890	5.434	3.415	1.80	28.2	139.9	333.9	20665	5.96	
	30/04/2021	1.556	3.850	5.434	3.878	2.16	29.7	-110.2	83.8	10256	6.73	
	11/10/2021	1.983	3.850	5.434	3.451	1.48	30.9	57.4	251.4	19286	6.48	
	21/04/2022	1.944	3.850	5.434	3.490	2.93	32.9	82.3	276.3	20155	6.62	
	13/10/2022	2.002	3.850	5.434	3.432	0.45	30.0	138.1	332.1	16538	6.99	
4/05/2023	1.756	3.790	5.434	3.678	2.97	32.7	-43.4	150.6	22983	6.71		
MW049	17/08/2017	2.387	5.545	5.282	2.895	0.79	28.8	13.9	207.9	4648	7.26	
	12/04/2018	1.530	5.360	5.282	3.752	2.31	30.8	32	226.0	1532	6.68	
	2/05/2019	1.673	5.360	5.282	3.609	1.15	29.0	120	314.0	3759	7.49	
	14/10/2019	2.384	5.303	5.282	2.898	1.12	28.4	224.3	418.3	3741	7.03	
MW056	17/08/2017	1.627	5.545	2.955	1.328	1.19	23.9	96.5	290.5	33262	5.68	
	17/04/2018	1.208	5.500	2.955	1.747	0.97	27.0	-152.3	41.7	20183	7.13	
	29/04/2019	1.200	5.500	2.955	1.755	1.41	27.1	128.4	322.4	8975	NR	
	18/10/2019	1.852	5.550	2.955	1.103	1.91	25.4	-46.8	147.2	10078	6.64	
	30/04/2020	1.463	5.485	2.955	1.492	1.99	31.1	-51.4	142.6	46781	6.48	
	7/09/2020	1.991	5.460	2.955	0.964	3.94	25.2	-64.3	129.7	33400	6.40	
	6/05/2021	1.013	5.460	2.955	1.942	1.53	27.7	-28.9	165.1	44713	6.27	
	12/10/2021	1.712	5.460	2.955	1.243	3.34	27.8	-52.5	141.5	25848	7.16	
	13/04/2022	1.554	5.450	2.955	1.401	2.45	27.8	46.1	240.1	26437	6.66	
	10/10/2022	1.445	5.450	2.955	1.510	0.56	24.4	-52.5	141.5	32862	6.42	
4/05/2023	0.885	5.420	2.955	2.070	3.85	26.2	30.7	224.7	43206	6.55		
MW057	16/08/2017	1.962	6.343	3.114	1.152	4.44	25.0	18	212.0	48830	6.78	
	16/04/2018	1.272	6.300	3.114	1.842	2.40	27.6	37.1	231.1	43766	6.90	
	19/12/2018	1.132	6.325	3.114	1.982	0.96	27.5	139.9	333.9	50563	6.50	
	29/04/2019	1.138	6.300	3.114	1.976	5.29	26.5	265.6	459.6	851	5.01	
	18/10/2019	1.990	6.307	3.114	1.124	5.05	25.9	74.3	268.3	8506	6.58	
	30/04/2020	1.593	6.300	3.114	1.521	1.82	30.7	-47.5	146.5	68701	6.49	
	7/09/2020	1.670	6.280	3.114	1.444	4.70	26.6	-105.5	88.5	46365	7.13	
	28/04/2021	0.830	6.280	3.114	2.284	3.74	28.5	54.7	248.7	58281	6.63	
	12/10/2021	1.616	6.280	3.114	1.498	2.00	26.8	33.9	227.9	54119	6.36	
	13/04/2022	1.642	6.270	3.114	1.472	2.06	28.4	92.1	286.1	46654	6.44	
	11/10/2022	1.455	6.270	3.114	1.659	0.64	24.7	92.6	286.6	39291	6.87	
	28/04/2023	0.878	6.240	3.114	2.236	2.27	28.5	-64.1	129.9	68448	6.55	
	MW061	16/08/2017	1.405	5.470	4.668	3.263	1.13	28.9	88.8	282.8	8430	6.95
17/04/2018		0.826	5.475	4.668	3.842	1.23	31.9	21.4	215.4	2650	7.16	
17/12/2018		1.255	5.490	4.668	3.413	2.28	35.2	134.6	328.6	2369	7.49	
2/05/2019		0.950	5.475	4.668	3.718	3.90	30.6	91.6	285.6	1770	8.03	
17/10/2019		1.364	5.490	4.668	3.304	2.35	30.8	134.8	328.8	2605	6.69	
28/04/2020		1.067	5.477	4.668	3.601	2.38	31.9	3.8	197.8	5217	7.05	
23/09/2020		1.502	5.479	4.668	3.166	4.42	27.4	91.6	285.6	3801	7.04	
30/04/2021		0.816	5.480	4.668	3.852	2.16	29.9	-138.8	55.2	3587	7.32	
13/10/2021		1.409	5.480	4.668	3.259	3.19	29.3	4.1	198.1	3458	7.61	
22/04/2022		1.220	5.470	4.668	3.448	1.60	31.8	-28.3	165.7	2081	7.62	
13/10/2022		1.365	5.470	4.668	3.303	1.40	29.3	127.8	321.8	3093	7.82	
4/05/2023		0.945	5.480	4.668	3.723	2.91	32.2	-145.6	48.4	2532	7.96	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW063	17/08/2017	1.630	5.300	4.852	3.222	4.52	29.0	243	437.0	2948	7.43
	17/04/2018	1.215	5.310	4.852	3.637	1.64	31.8	41.5	235.5	7290	6.90
	17/12/2018	1.045	5.320	4.852	3.807	1.59	32.7	372.4	566.4	7961	6.83
	2/05/2019	1.283	5.310	4.852	3.569	2.83	29.3	109	303.0	2900	7.73
	16/10/2019	1.710	5.315	4.852	3.142	1.55	28.8	234.7	428.7	7438	6.83
	29/04/2020	1.645	5.318	4.852	3.207	1.44	28.3	39.9	233.9	9730	6.95
	10/09/2020	1.971	5.310	4.852	2.881	2.75	26.0	184.8	378.8	11191	6.49
	30/04/2021	0.819	5.310	4.852	4.033	1.85	28.4	38.1	232.1	9471	6.87
	13/10/2021	1.439	5.310	4.852	3.413	3.35	29.6	35.9	229.9	9823	6.84
	21/04/2022	1.138	5.320	4.852	3.714	2.59	31.1	40.6	234.6	9608	6.97
12/10/2022	1.275	5.320	4.852	3.577	0.31	28.7	85.8	279.8	9220	7.73	
4/05/2023	0.777	5.310	4.852	4.075	2.86	31.0	38.9	232.9	13938	6.90	
MW112	16/08/2017	1.382	5.237	3.300	1.918	0.71	26.4	18.6	212.6	26260	5.60
	16/04/2018	1.208	5.240	3.300	2.092	0.04	28.9	-51.6	142.4	29534	6.35
	20/12/2018	0.940	5.245	3.300	2.360	2.54	30.3	52.3	246.3	17695	5.81
	30/04/2021	1.153	5.400	3.300	2.147	1.85	28.7	13.6	207.6	9495	5.80
	13/10/2021	1.658	5.400	3.300	1.642	3.66	28.3	-30.8	163.2	7390	6.36
	12/04/2022	1.423	5.400	3.300	1.877	2.46	30.2	24.8	218.8	13553	6.04
	12/10/2022	1.540	5.400	3.300	1.760	0.49	26.8	54.7	248.7	23652	6.50
	4/05/2023	1.045	5.380	3.300	2.255	3.02	29.1	-16.1	177.9	30093	5.82
MW120	17/08/2017	1.405	5.950	4.549	3.144	4.90	29.7	125.8	319.8	2954	7.61
	17/04/2018	0.842	5.900	4.549	3.707	1.02	32.7	40.6	234.6	10275	6.70
	18/12/2018	0.725	5.900	4.549	3.824	3.30	35.1	349	543.0	640	7.40
	2/05/2019	0.668	5.900	4.549	3.881	2.27	32.4	105.6	299.6	3937	7.44
	15/10/2019	1.464	5.900	4.549	3.085	4.59	30.7	83.1	277.1	2521	7.10
	28/04/2020	1.121	5.854	4.549	3.428	2.22	33.6	-23.1	170.9	8708	6.92
	11/09/2020	1.383	5.840	4.549	3.166	2.78	29.5	112	306.0	12042	6.35
	30/04/2021	0.778	5.840	4.549	3.771	2.11	30.3	-153.3	40.7	7774	6.95
	11/10/2021	1.389	5.840	4.549	3.160	1.74	29.9	-6.9	187.1	5295	7.17
	21/04/2022	1.265	5.830	4.549	3.284	2.44	32.3	80.9	274.9	11107	6.86
	13/10/2022	1.335	5.830	4.549	3.214	1.44	28.3	131	325.0	7614	7.11
4/05/2023	0.722	5.760	4.549	3.827	2.84	32.1	-45	149.0	4811	7.35	
MW121	15/08/2017	0.360	5.800	2.024	1.664	5.78	25.7	129.9	323.9	18916	6.19
	19/04/2018	0.240	5.883	2.024	1.784	NR	28.1	156.6	350.6	22416	5.73
	29/04/2019	0.200	5.883	2.024	1.824	1.01	28.7	69.7	263.7	9826	7.12
	17/10/2019	1.391	5.834	2.024	0.633	1.24	25.9	186.8	380.8	19162	4.74
MW122	17/08/2017	1.292	6.485	2.451	1.159	0.60	26.5	106.3	300.3	17575	4.82
	17/04/2018	0.839	6.500	2.451	1.612	2.60	29.0	98.3	292.3	19848	5.24
	19/12/2018	0.450	6.450	2.451	2.001	0.67	29.8	175.1	369.1	34854	6.41
	30/04/2019	0.924	6.500	2.451	1.527	3.21	27.8	232.7	426.7	17460	6.57
	18/10/2019	1.753	6.456	2.451	0.698	0.52	27.3	182.7	376.7	28881	5.89
	29/04/2020	1.182	6.428	2.451	1.269	0.66	32.2	1.1	195.1	32441	5.93
	9/09/2020	1.581	6.450	2.451	0.870	1.64	26.5	-140.8	53.2	44398	5.87
	28/04/2021	0.502	6.430	2.451	1.949	2.67	28.0	11	205.0	18493	5.79
	12/10/2021	1.573	6.430	2.451	0.878	2.60	28.6	-0.6	193.4	36107	6.06
	13/04/2022	1.400	6.380	2.451	1.051	1.96	29.7	97.9	291.9	23437	6.08
	11/10/2022	1.310	6.380	2.451	1.141	0.62	26.7	103.3	297.3	30406	6.78
	27/04/2023	0.698	6.380	2.451	1.753	2.13	29.2	54	248.0	33291	6.05
MW135	15/08/2017	0.930	6.050	2.275	1.345	2.81	27.7	-20.2	173.8	30192	6.24
	17/04/2018	1.611	5.960	2.275	0.664	0.99	29.4	-37.6	156.4	38128	6.38
	19/12/2018	0.560	5.960	2.275	1.715	0.79	29.1	-273	-79.0	56049	6.59
	30/04/2019	0.525	5.960	2.275	1.750	1.80	29.0	23.1	217.1	11973	6.69
	18/10/2019	1.773	5.920	2.275	0.502	0.92	28.0	-20.8	173.2	21668	6.26
	29/04/2020	1.155	5.910	2.275	1.120	0.54	29.1	-76.7	117.3	57573	6.48
	9/09/2020	1.439	5.900	2.275	0.836	2.06	28.4	-142.9	51.1	60937	6.18
	28/04/2021	0.552	5.890	2.275	1.723	2.42	28.6	-83.4	110.6	53898	6.54
	12/10/2021	1.621	5.890	2.275	0.654	2.55	27.7	-102.3	91.7	35068	6.22
	13/04/2022	1.442	5.680	2.275	0.833	1.75	29.8	-58.7	135.3	47668	6.18
	10/10/2022	1.445	5.680	2.275	0.830	0.61	26.9	-113.4	80.6	43354	6.67
28/04/2023	0.563	5.660	2.275	1.712	2.25	28.9	-103.7	90.3	55331	6.36	
MW136	17/08/2017	1.262	5.955	2.823	1.561	4.26	28.2	4.1	198.1	5391	7.41
	17/04/2018	0.724	5.990	2.823	2.099	0.38	29.9	64	258.0	1529	7.90
	17/12/2018	0.895	5.920	2.823	1.928	2.90	30.3	123	317.0	1276	7.70
	2/05/2019	0.544	5.990	2.823	2.279	2.07	28.2	58.1	252.1	1439	7.70
	17/10/2019	1.535	5.850	2.823	1.288	3.19	28.8	150.1	344.1	4133	8.01
	29/04/2020	1.109	5.848	2.823	1.714	7.60	29.6	-33.8	160.2	2830	7.67
	9/09/2020	1.349	5.840	2.823	1.474	3.40	26.4	-132.5	61.5	2552	7.41
	28/04/2021	0.482	5.850	2.823	2.341	1.76	27.2	-112.4	81.6	1041	7.49
	12/10/2021	1.309	5.850	2.823	1.514	2.63	28.4	-33.5	160.5	1834	7.67
	13/04/2022	1.149	5.780	2.823	1.674	1.86	29.6	159.3	353.3	1084	7.11
	11/10/2022	1.260	5.780	2.823	1.563	0.84	26.8	126.8	320.8	1809	8.35
	4/05/2023	0.605	5.700	2.823	2.218	4.30	29.0	-120.1	73.9	5934	7.91
MW140	16/08/2017	1.420	13.000	2.728	1.308	2.80	26.1	202	396.0	71941	6.18
	12/04/2018	0.769	13.014	2.728	1.959	0.69	27.3	24.4	218.4	53254	5.76
	1/05/2019	0.895	13.014	2.728	1.833	2.10	28.2	62.7	256.7	16331	6.51
	16/10/2019	1.605	12.770	2.728	1.123	0.99	26.6	91	285.0	19830	5.84
	29/04/2020	1.129	12.700	2.728	1.599	1.24	27.4	-14.1	179.9	33585	6.13
	10/09/2020	0.510	11.180	2.728	2.218	1.96	24.4	176.1	370.1	69747	5.92
	21/04/2021	0.789	11.180	2.728	1.939	2.07	27.0	74	268.0	58358	6.10
	11/10/2021	1.533	11.180	2.728	1.195	1.83	27.8	62.8	256.8	65689	6.06
	20/04/2022	1.268	12.330	2.728	1.460	0.86	28.2	122.5	316.5	629	5.74
	12/10/2022	1.350	12.330	2.728	1.378	0.26	25.8	138.4	332.4	55871	6.23
28/04/2023	0.656	12.200	2.728	2.072	2.12	27.2	48	242.0	71960	5.98	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW222	17/08/2017	1.313	8.091	4.568	3.255	3.36	26.6	-36.7	157.3	8236	6.43
	18/04/2018	0.601	8.080	4.568	3.967	1.33	31.2	42.6	236.6	12642	6.92
	18/12/2018	1.550	5.630	4.568	3.018	1.80	32.2	156	350.0	19334	6.70
	10/05/2019	1.393	5.804	4.568	3.175	0.92	30.9	2.1	196.1	11196	6.99
	17/10/2019	1.561	8.020	4.568	3.007	1.67	28.8	183.7	377.7	7513	5.74
	30/04/2020	0.949	7.990	4.568	3.619	2.12	30.5	-1.5	192.5	14139	6.24
	23/09/2020	1.501	7.970	4.568	3.067	2.14	27.1	128.4	322.4	9526	5.34
	30/04/2021	0.334	7.850	4.568	4.234	5.88	22.8	57.3	251.3	7550	6.01
	7/10/2021	1.275	7.850	4.568	3.293	1.70	28.5	93.3	287.3	9603	5.48
	20/04/2022	1.045	NR	4.568	3.523	3.45	27.2	-15.3	178.7	11254	6.75
12/10/2022	1.060	NR	4.568	3.508	0.37	27.2	60.6	254.6	6668	7.28	
4/05/2023	0.592	7.850	4.568	3.976	3.36	27.3	-101.8	92.2	2083	6.95	
MW223	17/08/2017	1.817	4.870	5.337	3.520	1.10	28.3	16.9	210.9	2785	7.21
	18/04/2018	1.173	4.900	5.337	4.164	1.08	29.5	26.1	220.1	2680	7.36
	2/05/2019	0.926	5.970	5.337	4.411	1.27	NR	47.5	241.5	347.4	7.19
	14/10/2019	1.545	6.953	5.337	3.792	1.21	28.3	200.5	394.5	1215	7.31
	28/04/2020	1.464	4.710	5.337	3.873	1.94	28.6	8.7	202.7	1872	7.33
	23/09/2020	1.198	4.728	5.337	4.139	2.48	27.1	49	243.0	1017	7.36
	30/04/2021	0.978	4.740	5.337	4.359	2.29	27.8	-4.7	189.3	1804	7.08
	13/10/2021	1.397	4.740	5.337	3.940	3.30	29.0	-21.6	172.4	2760	7.49
	12/04/2022	1.301	4.780	5.337	4.036	2.47	30.8	103.2	297.2	2836	7.42
	05/10/2022	1.476	4.780	5.337	3.861	2.92	27.1	153.4	347.4	2380	6.87
4/05/2023	1.146	4.740	5.337	4.191	2.95	29.1	85.2	279.2	2787	7.14	
MW224	17/08/2017	1.733	8.192	5.001	3.268	2.80	26.6	12.1	206.1	16370	6.81
	18/04/2018	1.173	4.950	5.001	3.828	2.05	29.7	37.9	231.9	9894	6.81
	17/12/2018	1.592	7.985	5.001	3.409	0.95	29.8	162.1	356.1	20503	6.53
	2/05/2019	1.213	8.160	5.001	3.788	0.87	28.9	113.7	307.7	11170	6.90
	14/10/2019	1.900	8.055	5.001	3.101	0.89	27.5	202.3	396.3	15597	6.06
	28/04/2020	1.406	7.958	5.001	3.595	1.87	28.0	52.9	246.9	18966	6.51
	23/09/2020	1.750	7.930	5.001	3.251	2.23	26.5	122.7	316.7	19896	5.91
	30/04/2021	1.021	7.960	5.001	3.980	1.98	27.3	49.3	243.3	19125	6.53
	13/10/2021	1.653	7.960	5.001	3.348	3.25	27.7	51.7	245.7	19155	6.45
	12/04/2022	1.478	7.950	5.001	3.523	2.97	29.1	104.6	298.6	19538	6.60
12/10/2022	1.495	7.950	5.001	3.506	1.08	26.8	92.8	286.8	16092	7.60	
4/05/2023	1.153	7.950	5.001	3.848	2.81	29.2	29.5	223.5	21939	6.78	
MW226	16/08/2017	1.421	7.023	5.172	3.751	4.37	26.1	17.5	211.5	17464	6.87
	13/04/2018	0.660	7.000	5.172	4.512	NR	28.9	113.4	307.4	15211	7.06
	19/12/2018	0.665	6.922	5.172	4.507	2.18	29.2	138.5	332.5	8276	7.32
	3/05/2019	0.890	7.000	5.172	4.282	0.99	28.7	104	298.0	20514	6.16
	24/10/2019	1.820	6.760	5.172	3.352	0.37	27.0	188.5	382.5	24057	6.35
	25/04/2020	1.124	6.733	5.172	4.048	1.28	29.0	-99.2	94.8	7927	6.81
	23/09/2020	1.673	6.640	5.172	3.499	2.08	27.7	26.2	220.2	27438	6.28
	30/04/2021	0.329	6.720	5.172	4.843	1.37	27.8	-101.1	92.9	6919	6.56
	13/10/2021	1.721	6.720	5.172	3.451	2.29	27.4	-71.4	122.6	21501	6.48
	12/04/2022	1.345	6.870	5.172	3.827	2.08	28.5	-97.1	96.9	11277	6.58
19/10/2022	1.445	6.870	5.172	3.727	0.35	25.6	-55.4	138.6	13912	6.69	
4/05/2023	0.705	6.380	5.172	4.467	2.89	26.9	-109.5	84.5	6136	6.82	
MW227	16/08/2017	1.523	8.025	4.693	3.170	4.36	27.0	-11.4	182.6	13117	6.96
	13/04/2018	0.790	8.000	4.693	3.903	NR	29.7	94.6	288.6	7906	6.77
	12/12/2018	1.450	8.000	4.693	3.243	2.03	29.5	187.4	381.4	14608	6.62
	3/05/2019	0.878	8.000	4.693	3.815	1.12	28.9	-31	163.0	13760	6.91
	24/10/2019	1.705	7.948	4.693	2.988	0.43	27.9	183.4	377.4	17758	6.13
	25/04/2020	1.117	7.845	4.693	3.576	1.48	29.7	-44.6	149.4	28633	6.47
	23/09/2020	1.574	7.860	4.693	3.119	2.43	27.8	81.4	275.4	23103	5.94
	30/04/2021	0.585	7.900	4.693	4.108	1.50	28.8	-24.9	169.1	19279	6.44
	13/10/2021	1.578	7.900	4.693	3.115	1.99	28.5	86	280.0	23407	6.34
	12/04/2022	1.284	7.880	4.693	3.409	1.92	28.5	-68.4	125.6	21831	6.51
12/10/2022	1.360	7.880	4.693	3.333	0.19	27.6	-66.7	127.3	22192	7.25	
4/05/2023	0.731	7.830	4.693	3.962	3.44	28.1	-82.2	111.8	19600	6.70	
MW228	16/08/2017	1.618	8.245	4.944	3.326	2.51	27.1	30.1	224.1	23415	6.81
	13/04/2018	0.890	8.550	4.944	4.054	NR	28.5	131.4	325.4	15442	6.90
	3/05/2019	1.042	8.550	4.944	3.902	1.22	28.8	106.6	300.6	23027	6.64
	25/04/2020	1.266	8.065	4.944	3.678	2.30	29.3	44	238.0	25368	6.71
	30/04/2021	0.770	8.040	4.944	4.174	1.69	27.8	11.8	205.8	24902	6.49
	12/04/2022	1.462	7.950	4.944	3.482	3.09	27.9	72.6	266.6	23874	6.54
	13/04/2023	0.895	7.850	4.944	4.049	2.85	31.9	-7.7	186.3	22892	6.56
MW229	16/08/2017	2.355	10.302	5.387	3.032	2.60	28.4	20.7	214.7	28880	6.35
	18/04/2018	1.748	10.280	5.387	3.639	1.10	32.5	50.6	244.6	29576	6.28
	10/05/2019	1.905	10.280	5.387	3.482	2.89	28.1	177.5	371.5	30814	NR
	17/10/2019	2.487	10.256	5.387	2.900	1.53	28.0	160.3	354.3	26967	5.91
	25/04/2020	1.898	10.158	5.387	3.489	2.07	29.7	116.4	310.4	37146	6.15
	23/09/2020	2.373	10.160	5.387	3.014	3.31	28.7	82.7	276.7	34910	5.71
	30/04/2021	1.421	9.930	5.387	3.966	2.26	27.7	105.6	299.6	34698	5.96
	13/10/2021	2.349	9.930	5.387	3.038	2.77	28.6	97.6	291.6	33372	6.07
	12/04/2022	2.146	10.060	5.387	3.241	2.06	29.9	-30.9	163.1	31949	6.09
12/10/2022	2.245	10.060	5.387	3.142	0.36	27.8	97.5	291.5	30690	6.99	
4/05/2023	1.622	9.860	5.387	3.765	2.41	28.4	-3.1	190.9	38925	6.08	
MW232	17/08/2017	1.978	4.962	5.767	3.789	3.73	28.4	16.8	210.8	4537	7.45
	17/04/2018	1.299	4.960	5.767	4.468	2.44	31.0	-7.2	186.8	2707	7.54
	17/12/2018	1.870	4.965	5.767	3.897	2.48	30.4	124	318.0	4595	7.55
	2/05/2019	1.349	4.960	5.767	4.418	1.87	30.9	108.2	302.2	2446	7.85
	14/10/2019	1.940	4.955	5.767	3.827	1.24	28.3	205.4	399.4	2508	7.57
	28/04/2020	1.513	4.965	5.767	4.254	2.92	29.6	13	207.0	2825	7.69
	11/09/2020	1.740	4.970	5.767	4.027	3.21	26.9	99.5	293.5	4884	7.08
	30/04/2021	1.193	4.940	5.767	4.574	2.57	29.6	-40.2	153.8	2696	7.64
	11/10/2021	1.779	4.940	5.767	3.988	0.98	30.4	-175.1	18.9	2073	7.60
	22/04/2022	1.698	4.850	5.767	4.069	1.61	28.4	98.0	292.0	2533	7.37
05/10/2022	2.965	4.850	5.767	2.802	1.40	26.3	157.1	351.1	2596	7.44	
4/05/2023	1.283	4.770	5.767	4.484	2.51	29.6	-89.6	104.4	3449	7.48	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW234	16/08/2017	1.600	7.770	3.216	1.616	3.23	25.5	-1.2	192.8	37196	7.01
	19/04/2018	1.487	7.750	3.216	1.729	2.11	28.0	-38.3	155.7	39780	7.28
	20/12/2018	1.325	7.775	3.216	1.891	1.25	29.0	116.7	310.7	60693	6.79
	3/05/2019	1.610	7.750	3.216	1.606	1.12	27.5	103.3	297.3	54704	7.27
	25/10/2019	2.280	7.776	3.216	0.936	1.26	27.0	142.5	336.5	44039	6.94
	27/04/2020	1.871	7.739	3.216	1.345	1.61	28.9	-18	176.0	89442	6.71
	9/09/2020	1.073	7.720	3.216	2.143	1.55	25.9	-89.6	104.4	71392	6.48
	20/04/2021	1.571	7.720	3.216	1.645	2.44	27.5	280.8	474.8	68413	6.33
	7/10/2021	2.267	7.720	3.216	0.949	2.08	27.4	148.3	342.3	86944	6.62
	14/04/2022	1.985	7.350	3.216	1.231	4.83	26.9	146.5	340.5	731	5.86
12/10/2022	2.000	7.350	3.216	1.216	0.34	25.3	5.6	199.6	53507	7.10	
4/05/2023	1.481	7.350	3.216	1.735	2.46	27.7	-45.8	148.2	114839	6.66	
MW235	16/08/2017	1.468	6.863	3.380	1.912	4.04	27.2	42	236.0	25214	7.04
	19/04/2018	1.998	6.820	3.380	1.382	1.31	30.4	30.8	224.8	13039	7.31
	3/05/2019	1.573	6.820	3.380	1.807	2.42	29.6	40.2	234.2	16322	7.61
	29/04/2020	1.844	6.823	3.380	1.536	1.94	29.4	-7.9	186.1	56606	6.86
	20/04/2021	1.407	6.820	3.380	1.973	3.15	28.9	110.5	304.5	16598	7.39
	14/04/2022	1.918	6.640	3.380	1.462	4.32	30.5	81.7	275.7	12624	7.18
	4/05/2023	1.479	6.640	3.380	1.901	2.24	28.8	23	217.0	56194	6.85
MW241	16/08/2017	2.053	4.725	3.114	1.061	0.31	27.5	-24.1	169.9	29559	6.87
	12/04/2018	1.265	4.660	3.114	1.849	1.68	28.7	90.4	284.4	15263	6.76
	17/12/2018	1.124	4.703	3.114	1.990	1.64	31.0	129.7	323.7	22568	6.81
	1/05/2019	1.342	4.660	3.114	1.772	1.39	28.9	67.8	261.8	12768	6.92
	17/10/2019	2.234	4.705	3.114	0.880	0.68	27.7	0.79	194.8	12710	6.81
	29/04/2020	1.640	4.666	3.114	1.474	0.53	30.8	-31.8	162.2	15222	6.95
	9/09/2020	2.055	4.700	3.114	1.059	2.53	28.1	-142	52.0	17073	7.10
	28/04/2021	1.031	4.680	3.114	2.083	4.50	27.2	59.8	253.8	12281	6.94
	12/10/2021	2.133	4.680	3.114	0.981	2.70	28.1	-2	192.0	12635	6.99
	13/04/2022	1.918	4.680	3.114	1.196	1.97	30.1	16.5	210.5	22590	6.98
	10/10/2022	1.910	4.680	3.114	1.204	0.59	26.7	100.1	294.1	10005	7.09
27/04/2023	1.341	4.680	3.114	1.773	2.24	30.8	84.1	278.1	11683	6.83	
MW242	16/08/2017	1.794	4.920	3.081	1.287	2.23	27.2	69.5	263.5	3610	7.39
	19/04/2018	1.465	4.890	3.081	1.616	1.73	28.5	67.2	261.2	7096	6.38
	17/12/2018	1.015	4.871	3.081	2.066	6.21	31.8	93.2	287.2	6334	7.41
	1/05/2019	1.448	4.890	3.081	1.633	1.72	29.4	20.1	214.1	7540	7.07
	17/10/2019	2.160	4.897	3.081	0.921	0.35	28.1	110.8	304.8	4828	7.36
	29/04/2020	1.545	4.819	3.081	1.536	0.68	28.5	-64.5	129.5	8236	7.67
	9/09/2020	1.965	4.830	3.081	1.116	2.04	25.9	-152.6	41.4	8336	6.56
	30/04/2021	1.332	4.810	3.081	1.749	1.61	28.9	66.9	260.9	8934	7.26
	12/10/2021	2.034	4.810	3.081	1.047	3.00	28.2	-123.3	70.7	9592	7.52
	13/04/2022	1.693	4.820	3.081	1.388	1.85	31.1	-18.0	176.0	8837	7.22
	11/10/2022	1.865	4.820	3.081	1.216	0.57	27.7	94.3	288.3	11347	7.58
27/04/2023	1.426	4.820	3.081	1.655	2.17	31.2	-121	73.0	10500	7.23	
MW243	17/08/2017	1.768	7.821	3.126	1.358	2.39	27.6	49.3	243.3	53717	6.25
	17/04/2018	1.322	7.770	3.126	1.804	2.84	29.9	122.6	316.6	53893	6.22
	17/12/2018	1.572	7.740	3.126	1.554	1.32	30.0	185.2	379.2	58658	6.58
	1/05/2019	0.820	7.770	3.126	2.306	1.15	28.5	136.4	330.4	57647	6.63
	17/10/2019	1.995	7.746	3.126	1.131	1.18	28.2	185.8	379.8	44811	6.02
	29/04/2020	1.521	7.691	3.126	1.605	0.31	30.2	19.8	213.8	66286	6.56
	9/09/2020	1.819	7.700	3.126	1.307	2.56	26.0	-83.2	110.8	40610	6.89
	30/04/2021	1.185	7.650	3.126	1.941	1.74	27.8	77.8	271.8	66793	6.48
	14/10/2021	1.857	7.650	3.126	1.269	2.32	29.0	110.5	304.5	67005	6.60
	12/04/2022	1.619	7.610	3.126	1.507	1.88	30.1	94.0	288.0	66846	6.61
	11/10/2022	1.710	7.610	3.126	1.416	0.71	26.3	192.5	386.5	61993	6.92
4/05/2023	1.152	7.520	3.126	1.974	3.18	28.9	40.3	234.3	81653	6.46	
MW244	15/08/2017	1.240	4.690	2.273	1.033	91.90	26.1	90.6	284.6	54549	7.04
	19/04/2018	0.745	4.700	2.273	1.528	NR	28.3	167.9	361.9	59467	6.77
	19/12/2018	0.040	4.700	2.273	2.233	3.26	30.3	380.9	574.9	32641	8.81
	29/04/2019	0.878	4.700	2.273	1.395	1.21	29.5	210.8	404.8	52761	6.66
	18/10/2019	1.535	4.432	2.273	0.738	1.18	27.6	98.3	292.3	45255	6.52
	29/04/2020	1.135	4.328	2.273	1.138	1.02	31.9	-66.7	127.3	59556	6.83
	7/09/2020	1.165	4.130	2.273	1.108	0.37	24.3	-124.2	69.8	30024	6.23
	16/10/2021	1.401	4.020	2.273	0.872	2.73	30.2	-119.2	74.8	7006	6.81
	13/04/2022	1.140	4.080	2.273	1.133	2.67	29.7	-149.1	44.9	2451	6.85
	11/10/2022	1.895	4.080	2.273	0.378	0.43	26.2	-135.5	58.5	956	7.30
	4/05/2023	0.915	4.680	2.273	1.358	2.69	29.2	-112	82.0	13379	6.65
MW245	17/08/2017	1.707	5.174	3.295	1.588	0.49	26.4	-27	167.0	10769	5.96
	17/04/2018	1.343	5.150	3.295	1.952	0.82	29.7	-46.6	147.4	5962	6.22
	17/12/2018	1.056	5.114	3.295	2.239	2.22	30.9	396.4	590.4	1582	6.79
	1/05/2019	1.430	5.150	3.295	1.865	1.13	28.2	25.2	219.2	6861	5.75
	15/10/2019	2.193	5.150	3.295	1.102	1.04	27.0	10.2	204.2	9021	5.65
	27/04/2020	1.533	5.095	3.295	1.762	1.69	28.9	18	212.0	9914	5.19
	7/09/2020	1.659	5.010	3.295	1.636	2.31	25.2	-72.5	121.5	9054	5.34
	30/04/2021	1.166	5.020	3.295	2.129	1.80	27.9	-47.2	146.8	3275	7.01
	13/10/2021	1.768	5.020	3.295	1.527	1.24	27.4	-30.5	163.5	12054	5.45
	12/04/2022	1.469	5.000	3.295	1.826	1.40	29.7	-36.9	157.1	7032	6.27
	12/10/2022	1.580	5.000	3.295	1.715	0.35	26.5	-0.9	193.1	4129	7.22
4/05/2023	1.227	4.930	3.295	2.068	3.69	28.9	-114.7	79.3	6391	6.88	
MW255	19/04/2018	1.293	8.330	3.121	1.828	1.60	29.4	40.9	234.9	69925	6.64
	20/12/2018	1.290	6.865	3.121	1.831	0.75	29.2	151	345.0	80182	6.75
	3/05/2019	1.373	8.330	3.121	1.748	1.25	29.1	84.4	278.4	85749	6.39
	25/10/2019	2.085	8.315	3.121	1.036	0.46	28.0	135.2	329.2	83186	5.91
	4/05/2020	1.624	8.275	3.121	1.497	1.86	29.4	11.9	205.9	15130	5.89
	9/09/2020	1.814	8.310	3.121	1.307	1.62	25.2	-68.6	125.4	84009	5.74
	20/04/2021	1.308	4.970	3.121	1.813	1.78	28.4	180.6	374.6	84984	6.01
	7/10/2021	1.980	4.970	3.121	1.141	1.14	27.8	132.6	326.6	108128	6.55
	14/04/2022	2.728	8.270	3.121	0.393*	3.65	29.1	109.2	303.2	1130	5.92
	12/10/2022	1.750	8.270	3.121	1.371			No field parameters			
	4/05/2023	1.227	8.270	3.121	1.894	1.90	28.4	15.5	209.5	127978	5.95

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW265	17/04/2018	1.533	5.816	3.276	1.743	1.85	29.4	36.8	230.8	45129	6.98
	17/12/2018	1.042	5.821	3.276	2.234	3.78	29.9	418.5	612.5	24287	6.38
	2/05/2019	1.638	5.816	3.276	1.638	1.42	30.2	120.2	314.2	43098	7.25
	17/10/2019	2.280	5.825	3.276	0.996	0.65	27.3	200	394.0	34469	7.10
	29/04/2020	1.863	5.804	3.276	1.413	0.62	31.9	0.7	194.7	32958	NR
	9/09/2020	2.550	5.810	3.276	0.726	2.06	25.3	-120.3	73.7	44547	6.65
	28/04/2021	1.212	5.800	3.276	2.064	3.20	26.7	40.7	234.7	50162	6.85
	12/10/2021	2.050	5.800	3.276	1.226	2.88	29.1	15	209.0	37134	7.06
	12/04/2022	1.961	5.800	3.276	1.315	1.85	29.8	114.9	308.9	53081	6.82
	11/10/2022	2.065	5.800	3.276	1.211	0.44	25.0	227	421.0	47956	6.88
4/05/2023	1.355	5.790	3.276	1.921	4.36	28.2	-60	134.0	70698	7.02	
MW300	30/04/2021	1.388	6.460	5.072	3.684	8.14	17.6	25.2	219.2	4396	6.03
	6/10/2021	2.222	6.460	5.072	2.850	1.95	27.0	24.4	218.4	3724	5.57
	14/04/2022	1.910	6.910	5.072	3.162	2.63	26.7	36.0	230.0	6069	5.48
	07/10/2022	1.965	6.910	5.072	3.107	0.80	25.0	133.8	327.8	3014	6.54
	4/05/2023	1.591	6.700	5.070	3.479	2.91	27.8	-16.1	177.9	8756	6.03
MW470	14/08/2017	3.661	4.373	5.136	1.475	0.58	29.2	61.7	255.7	1347	4.60
	20/12/2018	3.361	4.380	5.136	1.775	3.51	31.2	154	348.0	3195	6.56
	10/05/2019	3.133	4.362	5.136	2.003	3.00	26.8	128.5	322.5	120.1	6.60
	30/04/2020	3.288	4.374	5.136	1.848	1.98	30.7	8.8	202.8	703	5.96
	23/09/2020	3.890	4.355	5.136	1.246	4.83	27.9	125.8	319.8	1286	5.74
	30/04/2021	-	4.139	5.136	N/A	4.49	21.5	95.6	289.6	846	6.32
	14/10/2021	3.905	4.139	5.136	1.231	3.36	31.5	97.5	291.5	418	6.08
	22/04/2022	3.493	4.360	5.136	1.643	4.69	26.3	179.3	373.3	240	7.54
	19/10/2022	3.720	4.360	5.136	1.416			Insufficient water for parameters			
	4/05/2023	3.225	4.302	5.136	1.911	6.91	28.0	-15.5	178.5	1335	6.58
Off-Base											
MW201	18/08/2017	2.247	5.965	3.132	0.885	4.33	26.5	7.6	201.6	34402	6.80
	20/04/2018	1.559	5.593	3.132	1.573	1.89	28.1	37.7	231.7	36570	6.97
	23/10/2019	2.296	5.902	3.132	0.836	3.69	27.5	171.8	365.8	22042	7.90
	17/04/2020	1.755	5.905	3.132	1.377	2.82	30.6	-27.4	166.6	32082	8.04
	6/05/2021	0.721	5.680	3.132	2.411	2.01	30.0	108	302.0	47679	6.84
	21/04/2022	2.148	5.880	3.132	0.984	4.13	26.4	125.2	319.2	52341	6.75
	3/05/2023	1.566	5.910	3.132	1.566	6.37	27.9	103.4	297.4	23117	7.80
MW202	18/08/2017	1.850	6.032	2.904	1.054	3.57	25.3	18.3	212.3	84642	6.65
	20/04/2018	1.032	6.000	2.904	1.872	1.51	28.2	39.5	233.5	93972	6.76
	10/05/2019	1.313	6.000	2.904	1.591	3.17	27.7	121.8	315.8	84551	7.34
	23/10/2019	2.173	6.025	2.904	0.731	2.98	27.2	184.3	378.3	78205	7.47
	17/04/2020	1.434	6.000	2.904	1.470	1.98	30.0	-2.4	191.6	129746	6.75
	6/05/2021	0.721	5.770	2.904	2.183	1.06	28.7	110.6	304.6	26356	6.60
	21/04/2022	1.765	5.920	2.904	1.139	2.29	26.7	131.7	325.7	102395	6.35
3/05/2023	1.389	6.010	2.904	1.515	3.15	28.7	155.4	349.4	100571	6.61	
MW203	18/08/2017	1.645	4.795	2.785	1.140	1.26	27.1	20.5	214.5	96600	6.21
	20/04/2018	1.358	4.720	2.785	1.427	1.51	29.5	39.5	233.5	120406	6.15
	10/05/2019	1.335	4.720	2.785	1.450	2.90	28.1	54.4	248.4	53206	6.38
	23/10/2019	1.678	4.778	2.785	1.107	0.83	27.2	74.1	268.1	97070	5.69
	17/04/2020	1.352	4.720	2.785	1.433	2.38	31.0	-101.1	92.9	1472	6.20
	6/05/2021	1.236	4.690	2.785	1.549	0.14	29.0	-178.3	15.7	54505	6.39
	21/04/2022	1.485	4.720	2.785	1.300	1.49	27.0	-128.7	65.3	133650	6.09
3/05/2023	1.310	4.770	2.785	1.475	2.27	30.0	-129.5	64.5	138829	6.16	
MW204	17/08/2017	3.537	5.035	4.759	1.222	3.25	27.3	-39.2	154.8	970	7.15
	13/04/2018	2.603	5.010	4.759	2.156	301.00	29.4	53.8	247.8	162.9	6.82
	6/05/2019	2.655	5.010	4.759	2.104	3.84	29.1	111.1	305.1	147	6.39
	23/10/2019	3.475	4.940	4.759	1.284	2.05	26.1	89.5	283.5	2244	6.99
	17/04/2020	2.890	4.900	4.759	1.869	2.62	30.4	-33.3	160.7	1793	7.45
	27/04/2021	2.595	4.920	4.759	2.164	4.91	27.8	44.5	238.5	7955	6.26
	14/04/2022	3.075	4.950	4.759	1.684	4.50	29.9	129.4	323.4	8265	6.15
21/04/2023	2.716	4.930	4.759	2.043	1.13	28.8	-18.9	175.1	2427	6.15	
MW205	17/08/2017	1.970	5.050	3.239	1.269	0.58	25.1	54.3	248.3	16963	5.15
	13/04/2018	1.264	5.005	3.239	1.975	2.93	27.9	101.6	295.6	10786	5.24
	11/12/2018	2.569	5.000	3.239	0.670	1.50	28.1	124.9	318.9	22129	4.97
	6/05/2019	1.282	5.005	3.239	1.957	2.11	26.7	17.9	211.9	14898	5.37
	23/10/2019	2.295	5.000	3.239	0.944	1.41	25.5	58.3	252.3	15827	5.17
	17/04/2020	1.542	4.980	3.239	1.697	2.19	29.3	-7.5	186.5	21945	5.12
	14/09/2020	2.166	4.980	3.239	1.073	1.45	24.9	80.3	274.3	26665	5.30
	27/04/2021	1.168	4.990	3.239	2.071	2.51	26.7	50.4	244.4	16681	5.02
	12/10/2021	2.076	4.990	3.239	1.163	0.91	26.4	-82.4	111.6	17386	5.13
	14/04/2022	1.925	4.960	3.239	1.314	2.63	28.9	-28.1	165.9	19436	5.14
08/10/2022	1.745	4.960	3.239	1.494	0.82	24.9	-32.3	161.7	18787	6.25	
21/04/2023	1.295	5.000	3.239	1.944	1.37	27.3	-43.1	150.9	9386	5.41	
MW206	17/08/2017	1.747	5.032	3.280	1.533	0.02	26.2	222.4	416.4	10513	3.36
	16/04/2018	0.725	4.190	3.280	2.555	0.69	29.0	77.2	271.2	7555	4.20
	11/12/2018	2.121	3.750	3.280	1.159	5.12	27.3	210.2	404.2	1103	4.56
	6/05/2019	0.805	4.190	3.280	2.475	1.53	28.2	-52.1	141.9	848	7.16
	23/10/2019	1.530	3.720	3.280	1.750	1.08	25.1	147.7	341.7	8375	3.56
	17/04/2020	0.893	3.634	3.280	2.387	2.76	28.6	45.4	239.4	11732	3.59
	14/09/2020	2.166	4.980	3.280	1.114	3.04	23.7	226.6	420.6	12427	3.34
	27/04/2021	1.329	4.400	3.211	1.882	2.95	27.4	373.1	567.1	2200	3.39
	12/10/2021	2.098	4.400	3.211	1.113	1.15	26.4	306.2	500.2	11411	3.41
	14/04/2022	1.885	4.430	3.211	1.326	3.63	28.9	238.6	432.6	9287	3.47
06/10/2022	1.862	4.430	3.211	1.349*	1.01	25.5	256	450.0	9138	3.28	
21/04/2023	1.495	4.400	3.280	1.785	1.47	28.4	12	206.0	2731	4.33	
MW207	17/08/2017	2.961	6.699	3.825	0.864	1.68	26.1	282.4	476.4	26060	3.22
	13/04/2018	1.893	6.622	3.825	1.932	0.60	29.2	177	371.0	28620	3.67
	11/12/2018	3.442	6.395	3.825	0.383	3.06	26.9	197.6	391.6	38617	5.07
	6/05/2019	1.810	6.622	3.825	2.015	4.95	28.2	49	243.0	7427	4.11
	23/10/2019	3.025	6.349	3.825	0.800	0.50	26.0	181.5	375.5	20554	3.39
	17/04/2020	2.233	6.250	3.825	1.592	1.83	28.0	-6.3	187.7	40024	4.86
	14/09/2020	3.049	6.230	3.825	0.776	2.06	23.9	194.3	388.3	34470	3.80
	27/04/2021	1.641	6.270	3.825	2.184	3.43	26.5	226.1	420.1	27776	3.86
	12/10/2021	2.860	6.270	3.825	0.965	1.52	26.9	182.3	376.3	31495	4.30
	14/04/2022	2.662	6.230	3.825	1.163	3.17	28.5	133.3	327.3	33258	3.79
06/10/2022	NA	6.230	3.825	NA			No field parameters				
21/04/2023	1.842	6.220	3.825	1.983	1.73	26.6	-0.2	193.8	22811	4.06	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH
MW208	17/08/2017	2.692	4.950	4.060	1.368	1.49	28.0	120.4	314.4	4477	6.40
	11/04/2018	2.180	4.925	4.060	1.880	1.42	29.0	-198.2	-4.2	2433	7.30
	11/12/2018	3.245	4.940	4.060	0.815	1.88	28.4	175.1	369.1	7636	6.87
	6/05/2019	2.363	4.925	4.060	1.697	2.13	28.9	-71.9	122.1	9699	7.21
	23/10/2019	3.114	4.832	4.060	0.946	0.24	27.5	78.2	272.2	5837	6.63
	17/04/2020	2.140	4.752	4.060	1.920	2.62	28.8	-131.9	62.1	1477	7.34
	14/09/2020	2.624	4.760	4.060	1.436	2.62	26.2	83.7	277.7	4436	6.55
	27/04/2021	2.232	4.760	4.060	1.828	4.06	28.5	-77.6	116.4	2215	7.18
	12/10/2021	3.043	4.760	4.060	1.017	0.39	27.1	-180.5	13.5	4359	6.82
	14/04/2022	2.738	4.750	4.060	1.322	2.09	28.7	-137.9	56.1	4236	6.90
06/10/2022	2.800	4.750	4.060	1.260	7.40	27.0	101.4	295.4	28905	4.75	
21/04/2023	2.317	4.790	4.060	1.743	0.81	27.3	-169.7	24.3	1049	7.19	
MW209	14/08/2017	2.734	5.200	3.856	1.122	1.61	27.8	-77.6	116.4	1269	6.66
	11/04/2018	1.845	2.400	3.856	2.011	1.06	28.9	-150.5	43.5	1664	6.90
	6/05/2019	1.990	2.400	3.856	1.866	2.67	28.4	-109.8	84.2	960	7.20
MW301 (replacing MW209)	27/04/2021	2.199	4.920	3.940	1.741	3.90	31.6	-32.2	161.8	1351	7.52
	12/10/2021	2.948	4.920	3.940	0.992	0.29	30.1	-103	91.0	1433	7.17
	14/04/2022	2.705	3.850	3.940	1.235	7.45	30.6	-55.4	138.6	10.4	7.60
	08/10/2022	NA	3.850	3.940	NA			Not sampled - Dry			
21/04/2023	2.193	3.570	3.940	1.747	1.15	28.9	-73.1	120.9	1040	7.48	
MW210	14/08/2017	3.756	5.295	4.907	1.151	0.97	28.0	-85.6	108.4	681	7.10
	11/04/2018	2.956	6.254	4.907	1.951	0.78	28.3	-34.6	159.4	739	7.31
MW211	15/08/2017	3.709	5.950	4.990	1.281	0.84	28.0	-90.4	103.6	858	7.20
	11/04/2018	3.226	5.908	4.990	1.764	1.33	29.8	-10.5	183.5	1093	7.38
	3/12/2018	4.015	5.881	4.990	0.975	0.39	30.2	331	525.0	1143	6.95
	6/05/2019	3.450	5.908	4.990	1.540	1.23	27.7	11.8	205.8	1349	7.17
	25/04/2020	3.475	5.488	4.990	1.515	1.55	28.6	-39.1	154.9	1796	7.24
	24/09/2020	3.769	5.250	4.990	1.221	0.65	29.0	-22.5	171.5	1815	6.86
	27/04/2021	3.344	5.240	4.990	1.646	2.27	26.0	-120.4	73.6	1123	6.69
	13/10/2021	3.869	5.240	4.990	1.121	0.40	29.3	147.9	341.9	1748	-
	19/04/2022	3.571	5.050	4.990	1.419	2.47	29.7	-181.0	13.0	1186	7.04
	08/10/2022	3.670	5.050	4.990	1.320	0.80	26.4	-123.3	70.7	965	7.81
25/04/2023	3.144	5.150	4.990	1.846	2.62	30.7	-125	69.0	1093	7.29	
MW212	15/08/2017	1.291	4.125	2.835	1.544	20.90	27.3	-50.7	143.3	705	7.39
	11/04/2018	0.835	4.113	2.835	2.000	0.64	28.8	-138.8	55.2	1370	6.95
	4/12/2018	1.661	4.125	2.835	1.174	3.48	33.1	416.4	610.4	58644	6.77
	6/05/2019	1.000	4.113	2.835	1.835	1.30	27.9	-129.1	64.9	1001	7.68
	22/10/2019	1.710	4.120	2.835	1.125	1.40	27.5	112.2	306.2	2175	7.51
	20/04/2020	1.056	4.065	2.835	1.779	2.28	30.5	-38.3	155.7	1052	6.51
	16/09/2020	1.595	4.070	2.835	1.240	0.76	25.9	-6	188.0	3604	6.80
	21/04/2021	0.897	4.100	2.835	1.938	3.14	27.8	-68.5	125.5	657	6.71
	12/10/2021	1.588	4.100	2.835	1.247	1.23	33.6	-52.1	141.9	1510	6.72
	14/04/2022	1.258	4.110	2.835	1.577	4.55	29.8	-66.9	127.1	2093	6.88
06/10/2022	1.430	4.110	2.835	1.405	0.89	28.2	-23.1	170.9	2441	7.10	
25/04/2023	1.005	3.930	2.835	1.830	2.48	33.4	-105.7	88.3	1023	6.76	
MW213	15/08/2017	2.446	5.160	3.762	1.316	1.81	27.3	-13.7	180.3	6604	6.03
	11/04/2018	1.773	5.146	3.762	1.989	1.05	29.1	-82.5	111.5	16.32	6.72
	6/12/2018	2.960	5.053	3.762	0.802	0.09	29.9	341.6	535.6	32099	5.26
	6/05/2019	1.961	5.146	3.762	1.801	1.21	27.1	-112.2	81.8	4299	7.25
	24/10/2019	2.595	5.000	3.762	1.167	0.98	26.9	-67.4	126.6	8726	6.21
	20/04/2020	2.018	4.830	3.762	1.744	1.31	31.5	-55.3	138.7	12950	6.69
	21/09/2020	2.526	5.120	3.762	1.236	2.22	29.2	19.3	213.3	9587	6.83
	27/04/2021	1.900	5.160	3.762	1.862	3.18	29.0	-30.7	163.3	6557	6.43
	12/10/2021	2.605	5.160	3.762	1.157	0.68	29.9	-82.2	111.8	5801	6.39
	14/04/2022	2.291	4.640	3.762	1.471	4.05	30.4	-37.5	156.5	5448	7.09
08/10/2022	2.495	4.640	3.762	1.267	0.51	27.8	-27.9	166.1	8971	6.89	
25/04/2023	2.027	4.810	3.762	1.735	2.32	30.6	-13.1	180.9	2350	6.21	
MW214	15/08/2017	2.841	5.135	3.663	0.822	1.01	26.0	22.3	216.3	48463	6.72
	11/04/2018	2.293	5.126	3.663	1.370	0.83	30.9	24.1	218.1	36932	7.08
	12/12/2018	2.710	4.985	3.663	0.953	3.26	30.5	181.2	375.2	56024	6.92
	7/05/2019	2.475	5.126	3.663	1.188	3.05	29.1	146.7	340.7	34659	6.69
	24/10/2019	2.710	4.985	3.663	0.953	3.54	27.2	151.6	345.6	49841	6.66
	20/04/2020	2.451	4.940	3.663	1.212	3.72	33.5	1.9	195.9	64389	6.84
	16/09/2020	2.615	5.270	3.663	1.048	5.27	26.2	106.5	300.5	58693	6.78
	27/04/2021	2.385	4.900	3.663	1.278	4.78	28.0	92.4	286.4	49035	6.63
	12/10/2021	2.791	4.900	3.663	0.872	2.75	28.0	63.5	257.5	58421	6.87
	14/04/2022	2.570	4.930	3.663	1.093	3.69	29.3	121.60	315.6	59116	6.39
06/10/2022	2.650	4.930	3.663	1.013	2.36	27.4	168.6	362.6	55317	6.83	
21/04/2023	2.672	4.880	3.663	0.991	2.39	24.7	33	227.0	41835	6.78	
MW215	15/08/2017	2.748	6.902	3.269	0.521	1.11	26.9	10.8	204.8	10766	6.47
	11/04/2018	2.406	6.896	3.269	0.863	1.26	28.0	31.6	225.6	6881	6.52
	13/12/2018	2.925	6.741	3.269	0.344	1.14	28.0	157.6	351.6	10756	6.98
	7/05/2019	2.610	6.896	3.269	0.659	1.43	27.9	122.4	316.4	9243	6.75
	24/10/2019	2.740	6.615	3.269	0.529	1.24	26.5	86.5	280.5	8292	6.94
	20/04/2020	2.594	6.565	3.269	0.675	2.07	30.6	10.6	204.6	8667	6.91
	16/09/2020	2.808	6.840	3.269	0.461	2.16	25.6	109.4	303.4	10754	6.53
	27/04/2021	2.454	6.550	3.269	0.815	3.93	27.5	82.2	276.2	5990	7.08
	12/10/2021	1.680	6.550	3.269	1.589	1.35	29.0	72.5	266.5	10190	6.73
	14/04/2022	2.578	6.550	3.269	0.691	3.12	30.4	88.1	282.1	6220	6.54
06/10/2022	2.605	6.550	3.269	0.664	1.36	27.4	144.6	338.6	1603	6.63	
21/04/2023	2.680	6.340	3.269	0.589	1.22	24.8	-112.6	81.4	2434	6.56	
MW216	15/08/2017	1.672	4.425	3.544	1.872	1.37	27.7	-21.4	172.6	537	6.42
	11/04/2018	1.308	4.418	3.544	2.236	2.00	29.5	35.2	229.2	1631	6.52
	4/12/2018	1.740	4.415	3.544	1.804	0.18	31.9	356.4	550.4	432.9	5.94
	9/05/2019	1.390	4.418	3.544	2.154	1.22	27.9	119.6	313.6	353.3	7.00
	22/10/2019	1.590	4.598	3.544	1.954	0.62	28.6	175.1	369.1	262.3	7.04
	21/04/2020	1.451	4.334	3.544	2.093	2.50	32.3	-63.3	130.7	512	6.53
	14/09/2020	1.989	4.340	3.544	1.555	1.79	25.8	260.7	454.7	1638	3.64
	27/04/2021	1.304	4.320	3.544	2.240	3.59	29.0	54.5	248.5	515	6.23
	12/10/2021	1.642	4.320	3.544	1.902	0.38	29.1	42.8	236.8	488.6	6.37
	14/04/2022	1.474	4.280	3.544	2.070	1.70	33.4	43.4	237.4	518	6.00
06/10/2022	1.535	4.280	3.544	2.009	0.62	28.3	147.1	341.1	498.7	6.68	
21/04/2023	1.363	4.210	3.544	2.181	1.47	28.0	-30.7	163.3	370	6.01	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH	
MW217	15/08/2017	1.773	4.975	3.271	1.498	4.21	28.5	110.2	304.2	26570	6.51	
	11/04/2018	1.330	5.955	3.271	1.941	1.08	29.4	44	238.0	31731	6.66	
	13/12/2018	1.785	5.885	3.271	1.486	1.21	29.6	156.5	350.5	34594	6.83	
	8/05/2019	1.314	5.955	3.271	1.957	NR	29.6	112.8	306.8	24336	7.42	
	24/10/2019	2.103	5.845	3.271	1.168	1.93	26.2	186.1	380.1	22737	7.02	
	20/04/2020	1.515	5.830	3.271	1.756	2.39	31.1	-95.5	98.5	20833	6.70	
	16/09/2020	1.987	5.830	3.271	1.284	1.40	27.1	5.1	199.1	39850	6.42	
	29/04/2021	1.389	5.780	3.271	1.882	3.17	28.1	142	336.0	33509	6.62	
	14/10/2021	1.929	5.780	3.271	1.342	4.10	29.4	235.4	429.4	34859	6.79	
	14/04/2022	1.649	4.800	3.271	1.622	2.94	30.8	124.0	318.0	35007	7.25	
05/10/2022	1.705	4.800	3.271	1.566	2.29	27.5	81.6	275.6	13814	7.53		
21/04/2023	1.415	5.700	3.271	1.856	1.12	30.4	-23.8	170.2	16825	7.35		
MW218	15/08/2017	1.499	5.500	2.908	1.409	3.33	28.9	-26.5	167.5	34493	6.71	
	10/04/2018	0.955	5.754	2.908	1.953	0.84	32.0	54.1	248.1	37285	6.42	
	4/12/2018	1.731	5.345	2.908	1.177	0.18	32.9	382.2	576.2	26687	6.05	
	7/05/2019	1.035	5.754	2.908	1.873	2.06	31.4	81.2	275.2	9146	7.07	
	22/10/2019	1.743	5.289	2.908	1.165	1.23	29.5	209.2	403.2	17905	6.70	
	20/04/2020	1.176	5.210	2.908	1.732	1.74	32.1	-52.4	141.6	41866	6.49	
	16/09/2020	1.572	5.230	2.908	1.336	1.67	26.6	83.9	277.9	32906	6.30	
	27/04/2021	0.955	5.230	2.908	1.953	2.08	28.0	103.2	297.2	30797	6.37	
	12/10/2021	1.520	5.230	2.908	1.388	0.32	28.4	154.3	348.3	32990	6.40	
	14/04/2022	1.276	5.170	2.908	1.632	1.32	33.2	110.4	304.4	33929	6.80	
	06/10/2022	1.330	5.170	2.908	1.578	5.50	27.3	174.8	368.8	29932	6.61	
25/04/2023	0.975	4.970	2.908	1.933	No field parameters							
MW219	15/08/2017	2.818	9.610	4.408	1.590	2.16	29.3	23.1	217.1	10452	6.74	
	10/04/2018	1.990	9.485	4.408	2.418	1.16	31.7	17.4	211.4	9953	6.97	
	4/12/2018	2.797	9.276	4.408	1.611	0.46	30.3	292.8	486.8	8983	6.49	
	7/05/2019	1.875	9.485	4.408	2.533	1.98	30.2	55.5	249.5	3444	7.16	
	22/10/2019	2.663	9.281	4.408	1.745	0.44	28.6	240.6	434.6	7463	6.95	
	20/04/2020	2.082	9.200	4.408	2.326	2.51	30.4	-46.9	147.1	12224	7.09	
	16/09/2020	2.487	9.080	4.408	1.921	2.00	26.2	170.8	364.8	9999	6.59	
	29/04/2021	1.781	9.740	4.408	2.627	4.03	27.9	23.7	217.7	10887	6.98	
	12/10/2021	2.338	9.740	4.408	2.070	0.59	28.8	11.1	205.1	6927	6.97	
	14/04/2022	2.010	6.030	4.408	2.398	3.53	30.0	77.6	271.6	9635	7.09	
	19/10/2022	2.150	6.030	4.408	2.258	0.94	27.7	130.1	324.1	7613	6.72	
20/04/2023	1.320	8.720	4.408	3.088	1.20	28.1	-60.4	133.6	5563	7.06		
MW220	15/08/2017	1.962	4.750	4.183	2.221	0.47	30.8	18.8	212.8	21743	6.31	
	10/04/2018	1.156	6.383	4.183	3.027	1.48	32.3	49.7	243.7	11360	6.50	
	7/05/2019	1.259	5.725	4.183	2.924	0.95	31.8	-6.8	187.2	11950	7.60	
	21/04/2020	1.505	5.455	4.183	2.678	2.06	33.0	-104.9	89.1	13737	6.56	
	30/04/2021	0.729	5.390	4.183	3.454	3.54	25.7	28.1	222.1	2861	6.89	
	14/04/2022	1.500	5.550	4.183	2.683	2.19	31.3	-39.3	154.7	7406	7.05	
	20/04/2023	0.921	5.450	4.183	3.262	1.10	31.2	34.2	228.2	796	7.04	
MW221	15/08/2017	1.702	5.784	3.813	2.111	3.03	28.7	-17	177.0	18753	6.84	
	10/04/2018	1.272	5.804	3.813	2.541	1.00	31.0	23	217.0	16167	6.74	
	8/05/2019	1.259	6.383	3.813	2.554	0.95	31.8	-6.8	187.2	11950	7.60	
	22/10/2019	1.774	5.637	3.813	2.039	0.55	29.8	212.7	406.7	15158	6.48	
	21/04/2020	1.448	5.584	3.813	2.365	2.31	32.0	-27	167.0	13412	6.82	
	16/09/2020	1.697	5.620	3.813	2.116	2.37	26.1	129.5	323.5	14958	6.45	
	29/04/2021	1.226	5.560	3.813	2.587	1.78	27.8	1.8	195.8	13930	6.49	
	14/10/2021	1.746	5.560	3.813	2.067	2.25	28.6	59.2	253.2	15870	6.78	
	20/04/2022	1.584	5.430	3.813	2.229	3.24	32.5	-104.7	89.3	10875	6.83	
	05/10/2022	1.781	5.430	3.813	2.032	0.65	29.1	35.5	229.5	11508	7.35	
21/04/2023	1.298	5.400	3.813	2.515	1.13	30.0	-77.2	116.8	4715	6.93		
MW225	15/08/2017	2.275	7.052	5.585	3.310	1.04	30.6	-45.9	148.1	1582	7.74	
	10/04/2018	1.408	6.910	5.585	4.177	0.61	32.3	7.7	201.7	3285	6.98	
	4/12/2018	2.661	6.881	5.585	2.924	0.68	33.1	280.7	474.7	1740	7.17	
	7/05/2019	1.645	6.910	5.585	3.940	2.08	27.7	164.4	358.4	9167	6.47	
	22/10/2019	2.620	6.865	5.585	2.965	1.17	30.6	131.2	325.2	1857	6.81	
	4/05/2020	1.994	6.802	5.585	3.591	3.56	27.5	55.6	249.6	15.2	7.51	
	14/09/2020	2.520	6.802	5.585	3.065	2.97	28.4	131.3	325.3	2855	6.67	
	29/04/2021	1.423	6.840	5.585	4.162	3.47	29.9	13.7	207.7	3151	7.03	
	14/10/2021	2.441	6.840	5.585	3.144	3.19	29.6	42	236.0	2960	7.51	
	14/04/2022	2.005	6.820	5.585	3.580	1.32	31.6	90.1	284.1	2707	7.29	
	19/10/2022	2.250	6.820	5.585	3.335	0.52	27.6	89.5	283.5	82555	4.69	
20/04/2023	1.520	6.800	5.585	4.065	1.83	29.0	46.7	240.7	1806	7.23		
MW231	18/04/2018	2.445	5.800	3.013	0.568	0.64	29.7	58.8	252.8	21589	6.30	
	9/05/2019	2.565	5.800	3.013	0.448	2.29	26.5	121.6	315.6	10600	6.73	
	23/10/2019	2.765	5.650	3.013	0.248	0.38	28.0	203.3	397.3	49331	6.76	
	20/04/2020	2.459	5.632	3.013	0.554	2.96	28.7	48	242.0	43699	6.82	
	28/04/2021	2.317	5.620	3.013	0.696	1.89	24.2	6	200.0	31645	6.77	
	21/04/2022	2.512	5.600	3.013	0.501	2.71	27.7	209.2	403.2	37694	6.55	
	11/04/2023	2.696	5.640	3.013	0.317	4.98	29.8	-55.6	138.4	17660	7.24	
MW233	13/04/2018	1.277	4.040	2.900	1.623	3.04	30.0	35.4	229.4	281	8.08	
	3/12/2018	3.317	4.050	2.900	-0.417	1.43	32.1	NR	NR	487	6.00	
	6/05/2019	1.190	4.040	2.900	1.710	4.49	31.5	142	336.0	2233.9	NR	
	22/10/2019	2.367	4.037	2.900	0.533	2.10	29.4	152.3	346.3	171.3	7.17	
	17/04/2020	1.851	4.024	2.900	1.049	6.35	32.1	-20.9	173.1	374.2	8.01	
	14/09/2020	2.297	4.030	2.900	0.603	4.52	27.4	104.6	298.6	200.9	7.27	
	27/04/2021	1.204	4.030	2.900	1.696	6.69	27.3	63.7	257.7	354.4	7.54	
	12/10/2021	2.252	4.030	2.900	0.648	2.44	28.6	-32.7	161.3	475	7.70	
	14/04/2022	1.985	4.360	2.900	0.915	6.28	30.7	9.1	203.1	457	7.73	
	06/10/2022	1.995	4.360	2.900	0.905	2.82	28.6	89.2	283.2	233.2	8.31	
14/04/2023	1.480	4.040	2.900	1.420	6.71	32.2	89.4	283.4	11.8	7.26		
MW236	15/08/2017	2.940	6.907	5.441	2.501	3.39	29.9	-14	180.0	12754	6.90	
	10/04/2018	2.015	7.030	5.441	3.426	0.82	31.5	38.8	232.8	10480	6.70	
	7/05/2019	2.165	7.030	5.441	3.276	1.14	29.3	70.8	264.8	3985	7.84	
	21/04/2020	2.637	6.630	5.441	2.804	1.60	29.7	63	257.0	15726	6.74	
	21/04/2021	2.369	6.620	5.441	3.072	3.58	29.4	98.6	292.6	5668	7.11	
	21/04/2022	2.746	6.700	5.441	2.695	3.85	29.9	122.3	316.3	9682	6.96	
	12/04/2023	2.158	5.340	5.441	3.283	3.11	32.2	73.2	267.2	850	7.71	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH	
MW237	19/04/2018	2.236	6.770	8.050	5.814	0.96	29.0	-99.8	94.2	10256	7.18	
	9/05/2019	2.325	6.770	8.050	5.725	3.12	26.8	74.9	268.9	13492	7.37	
	21/04/2020	2.398	6.503	8.050	5.652	2.96	28.3	-73.3	120.7	16577	7.30	
	28/04/2021	2.113	6.520	8.050	5.937	1.77	23.8	45.8	239.8	16923	7.02	
	14/04/2022	2.660	6.510	8.050	5.390	2.46	28.0	107.1	301.1	24587	7.08	
	11/04/2023	1.961	6.500	8.050	6.089	1.80	32.5	21.9	215.9	12664	7.24	
MW238	19/04/2018	1.886	5.950	7.006	5.120	1.65	31.9	47.8	241.8	17770	7.09	
	8/05/2019	1.583	5.950	7.006	5.423	3.46	30.4	33.1	227.1	1890	8.27	
	21/04/2020	1.838	5.600	7.006	5.168	5.39	30.5	-9	185.0	735	7.58	
	27/04/2021	1.581	5.510	7.006	5.425	4.65	28.6	77.5	271.5	1117	7.83	
	21/04/2022	1.687	5.580	7.006	5.319	2.40	29.5	81.8	275.8	6226	8.03	
	14/04/2023	1.101	5.500	7.006	5.905	2.47	31.3	64.5	258.5	2124	7.71	
MW239	19/04/2018	2.484	7.030	6.508	4.024	1.54	30.1	-78.4	115.6	4373	7.05	
	8/05/2019	2.310	7.030	6.508	4.198	1.23	28.8	-69.9	124.1	5363	7.00	
	21/04/2020	2.866	6.283	6.508	3.642	2.01	30.8	-66	128.0	11264	6.99	
	30/04/2021	2.391	6.283	6.508	4.117	2.61	27.1	-50.8	143.2	950	6.87	
	14/04/2022	2.918	6.140	6.508	3.590	1.55	30.2	103.0	297.0	4762	6.87	
	20/04/2023	2.062	3.050	6.508	4.446	2.55	23.3	54.6	248.6	866	6.48	
MW240	19/04/2018	1.825	5.950	6.561	4.736	1.44	31.9	16	210.0	1105	8.03	
	8/05/2019	1.625	5.950	6.561	4.936	1.29	30.9	-72.4	121.6	974	8.21	
	21/04/2020	2.102	5.946	6.561	4.459	1.37	28.6	-113.8	80.2	2235	8.11	
	27/04/2021	1.591	5.950	6.561	4.970	3.63	26.8	79.1	273.1	2092	8.16	
	14/04/2022	2.198	5.940	6.561	4.363	1.77	30.2	90.4	284.4	1409	7.52	
	11/04/2023	1.358	6.880	6.561	5.203	1.27	32.8	25	219.0	1116	7.82	
MW252	13/04/2018	0.636	4.045	3.038	2.402	1.04	31.2	60.2	254.2	1503	7.51	
	3/12/2018	2.985	4.040	3.038	0.053	0.49	32.0	NR	NR	661	6.63	
	6/05/2019	1.596	4.045	3.038	1.442	2.94	29.6	167.5	361.5	672	7.28	
	22/10/2019	2.646	4.040	3.038	0.392	0.73	28.3	161.4	355.4	485	7.30	
	17/04/2020	1.946	4.006	3.038	1.092	2.88	32.8	-66.6	127.4	1492	7.20	
	14/09/2020	2.639	4.030	3.038	0.399	1.63	26.3	128.2	322.2	693	5.56	
	27/04/2021	1.559	4.020	3.038	1.479	3.10	27.9	-39.4	154.6	830	7.31	
	12/10/2021	2.548	4.020	3.038	0.490	0.80	27.8	-21	173.0	959	7.11	
	14/04/2022	2.184	4.100	3.038	0.854	6.28	30.7	9.1	203.1	457	7.73	
	06/10/2022	2.222	4.100	3.038	0.816	0.92	26.9	90.6	284.6	887	7.35	
MW253	14/04/2023	1.695	4.030	3.038	1.343	2.54	31.6	6.4	200.4	897	7.29	
	13/04/2018	2.835	4.377	4.100	1.265	1.13	30.1	120.5	314.5	13439	6.45	
	3/12/2018	3.442	4.351	4.100	0.658	0.35	30.6	-63.2	130.8	32825	6.35	
	6/05/2019	2.950	4.377	4.100	1.150	2.38	28.9	214.7	408.7	10929	6.73	
	22/10/2019	3.510	4.355	4.100	0.590	0.18	28.5	-72.6	121.4	15312	6.71	
	27/04/2021	2.719	4.420	4.100	1.381	1.60	28.2	-68	126.0	4340	7.01	
	12/10/2021	3.319	4.420	4.100	0.781	0.08	29.0	-143.6	50.4	10725	6.91	
	Well not sampled due to damage.											
	08/10/2022	2.400	4.420	4.100	1.700	0.83	27.4	-105.2	88.8	7815	7.31	
	14/04/2023	2.285	3.840	4.100	1.815	3.19	30.8	110.4	304.4	7488	7.01	
MW254	13/04/2018	1.015	7.450	3.667	2.652	NR	31.3	118.5	312.5	55602	6.46	
	8/05/2019	0.895	7.450	3.667	2.772	3.18	31.0	91.8	285.8	18005	7.11	
	21/04/2020	1.215	7.450	3.667	2.452	1.43	30.5	31.2	225.2	78959	6.22	
	21/04/2021	1.045	7.470	3.667	2.622	2.70	29.7	64.4	258.4	58718	6.54	
	21/04/2022	1.096	7.550	3.667	2.571	3.43	31.0	154.0	348.0	58640	6.39	
	12/04/2023	0.613	7.480	3.667	3.054	2.00	33.6	61.9	255.9	64444	6.35	
MW256	11/04/2018	1.950	5.100	5.562	3.612	1.68	30.3	37.1	231.1	689	7.04	
	7/05/2019	0.875	5.100	5.562	4.687	2.13	29.9	68.3	262.3	624	7.81	
	24/10/2019	1.765	4.985	5.562	3.797	2.31	28.0	55.6	249.6	756	7.18	
	21/04/2020	0.987	4.970	5.562	4.575	2.31	32.6	-21.2	172.8	975	7.11	
	21/04/2021	0.756	4.910	5.562	4.806	3.81	29.8	62.5	256.5	1553	7.00	
	20/04/2022	1.312	4.950	5.562	4.250	4.80	29.5	195.8	389.8	669	6.69	
	12/04/2023	0.785	4.950	5.562	4.777	3.47	31.3	200.8	394.8	800	6.61	
MW257	10/04/2018	1.205	3.999	5.865	4.660	0.64	32.1	-3.2	190.8	1611	7.66	
	7/05/2019	1.415	3.999	5.865	4.450	1.76	30.9	61.6	255.6	1535	8.09	
	21/04/2020	1.647	4.005	5.865	4.218	2.50	30.6	39.1	233.1	984	8.33	
	21/04/2021	1.334	4.010	5.865	4.531	3.10	30.7	25.3	219.3	1457	8.19	
	21/04/2022	1.752	4.100	5.865	4.113	2.62	30.6	-41.7	152.3	4308	6.71	
	12/04/2023	1.433	4.840	5.865	4.432	2.72	32.2	32.9	226.9	1887	7.81	
MW258	10/04/2018	2.324	4.893	6.104	3.780	2.09	31.9	5.7	199.7	3358	7.33	
	7/05/2019	2.565	4.893	6.104	3.539	2.83	31.0	67.5	261.5	1765	7.77	
	22/10/2019	3.353	4.904	6.104	2.751	0.81	29.5	294.1	488.1	4707	6.81	
	21/04/2020	2.830	4.893	6.104	3.274	3.26	31.9	27	221.0	2738	7.56	
	21/04/2021	2.507	4.890	6.104	3.597	4.85	31.5	85.6	279.6	2215	7.54	
	20/04/2022	2.876	4.930	6.104	3.228	3.81	33.0	44.0	238.0	1780	7.58	
Unable to open well. Bolts damaged and unable to be opened.												
MW259	10/04/2018	2.079	4.986	4.664	2.585	2.34	31.3	5.4	199.4	1655	7.34	
	7/05/2019	2.243	4.986	4.664	2.421	2.38	27.4	89.4	283.4	2165	7.01	
	21/04/2020	2.335	4.994	4.664	2.329	2.34	31.8	-51.8	142.2	2105	7.39	
	21/04/2021	2.033	4.990	4.664	2.631	4.34	30.7	97.6	291.6	1679	7.41	
	20/04/2022	2.298	5.040	4.664	2.366	4.88	31.9	64.8	258.8	1863	7.75	
	14/04/2023	1.978	3.970	4.664	2.686	2.71	32.5	24.7	218.7	4782	7.25	
MW260	10/04/2018	1.948	4.000	4.312	2.364	2.54	35.0	32	226.0	4839	7.12	
	7/05/2019	2.075	4.000	4.312	2.237	1.76	27.2	106.7	300.7	4295	7.26	
	21/04/2020	2.174	5.000	4.312	2.138	1.93	33.4	-7.3	186.7	4942	7.24	
	21/04/2021	1.894	4.850	4.312	2.418	3.58	30.9	110.3	304.3	3845	7.33	
	20/04/2022	2.134	4.910	4.312	2.178	3.83	31.5	70.6	264.6	3767	7.49	
	12/04/2023	1.827	4.920	4.312	2.485	2.72	33.2	81	275.0	4397	7.38	
MW261	11/04/2018	6.195	10.450	16.498	10.303	0.62	28.7	33.6	227.6	910	6.57	
	7/05/2019	7.510	10.450	16.498	8.988	1.25	27.9	103.9	297.9	565	6.58	
	21/04/2020	7.534	10.350	16.498	8.964	2.31	31.1	31.1	225.1	668	6.39	
	29/04/2021	7.609	10.150	16.498	8.889	2.87	27.9	-20	174.0	716	6.48	
	14/04/2022	7.898	10.190	16.498	8.600	1.39	30.9	102.0	296.0	1642	6.13	
	13/04/2023	7.590	9.300	16.498	8.908	2.85	28.8	174.6	368.6	600	5.87	
MW262	13/04/2018	2.680	5.230	3.643	0.963	NR	31.2	135.5	329.5	81695	5.17	
	8/05/2019	2.040	5.230	3.643	1.603	1.05	33.7	208.1	402.1	83898	5.23	
	21/04/2020	2.033	5.297	3.643	1.610	3.23	31.3	-8.7	185.3	1054	4.65	
	21/04/2021	1.745	5.290	3.643	1.898	2.57	29.4	138.6	332.6	57477	5.20	
	21/04/2022	2.868	5.300	3.643	0.775	2.12	28.8	152.7	346.7	96556	4.88	
	14/04/2023	1.310	5.320	3.643	2.333	1.94	31.9	48.8	242.8	76421	5.59	

Location ID	Sample Date	Standing Water Level (mbTOC)	Well Depth (mbTOC)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	DO (mg/L)	Temp (°C)	Redox (mV)	Correct Redox (mV)	EC (µs/cm)	pH	
MW263	10/04/2018	0.582	3.548	3.939	3.357	1.17	32.6	28	222.0	1022	6.42	
	3/12/2018	1.917	3.550	3.939	2.022	0.36	34.1	NR	NR	956	5.32	
	7/05/2019	0.943	3.548	3.939	2.996	0.91	31.3	14.1	208.1	745	6.98	
	22/10/2019	1.803	3.544	3.939	2.136	0.28	31.1	215.7	409.7	522	6.70	
	21/04/2020	1.082	3.520	3.939	2.857	2.33	33.9	-74.3	119.7	1351	7.02	
	14/09/2020	1.723	3.550	3.939	2.216	3.84	27.0	209.7	403.7	530	5.43	
	22/04/2021	0.799	3.510	3.939	3.140	1.01	29.3	-40.1	153.9	765	6.52	
	11/10/2021	1.695	3.510	3.939	2.244	2.08	30.1	-7.7	186.3	1022	6.67	
	20/04/2022	1.402	3.570	3.939	2.537	3.09	32.6	-34.0	160.0	863	7.20	
06/10/2022	1.510	3.570	3.939	2.429	0.76	29.2	148.5	342.5	453	6.99		
21/04/2023	0.853	3.570	3.939	3.086	2.34	29.9	15.5	209.5	436.5	6.56		
MW264	13/04/2018	2.141	4.020	3.190	1.049	NR	31.2	-96.4	97.6	15224	6.70	
	13/12/2018	2.235	5.530	3.190	0.955	0.83	31.0	28.1	222.1	31971	6.25	
	8/05/2019	1.233	4.020	3.190	1.957	0.86	31.4	-24.8	169.2	14271	6.86	
	24/10/2019	2.357	5.534	3.190	0.833	1.68	28.6	37.7	231.7	21178	6.26	
	20/04/2020	1.385	5.520	3.190	1.805	1.55	31.8	-76.8	117.2	42269	6.36	
	14/09/2020	2.148	3.985	3.190	1.042	1.79	24.8	311	505.0	33193	3.59	
	21/04/2021	1.157	5.530	3.190	2.033	2.86	29.9	-6.8	187.2	24185	6.61	
	11/10/2021	2.087	5.530	3.190	1.103	2.19	31.0	-40.1	153.9	27766	6.54	
	21/04/2022	1.689	4.040	3.190	1.501	3.99	29.6	49.4	243.4	25271	5.90	
08/10/2022	1.902	4.040	3.190	1.288	0.46	27.6	-10.7	183.3	21312	6.77		
21/04/2023	1.156	5.160	3.190	2.034	1.00	28.5	-148.1	45.9	9983	7.09		
MW266	10/04/2018	1.454	5.036	3.228	1.774	0.96	29.9	-0.3	193.7	25232	6.68	
	7/05/2019	1.507	5.036	3.228	1.721	1.45	26.6	-29.9	164.1	19499	7.01	
	21/04/2020	1.765	5.040	3.228	1.463	2.64	30.5	-89.6	104.4	19754	7.11	
	29/04/2021	1.296	5.040	3.228	1.932	3.22	27.8	-99	95.0	13090	7.13	
	14/04/2022	1.659	5.030	3.228	1.569	2.20	30.3	-59.7	134.3	9887	7.08	
	11/04/2023	1.238	5.050	3.228	1.990	1.15	30.4	-138.1	55.9	2929	6.99	
MW267	10/04/2018	2.035	5.035	4.134	2.099	1.06	30.3	23.8	217.8	6187	6.70	
	4/12/2018	2.813	4.975	4.134	1.321	0.23	28.9	280.2	474.2	7041	6.35	
	7/05/2019	2.110	5.035	4.134	2.024	0.93	29.3	-52.3	141.7	6686	6.87	
	21/04/2020	2.301	4.644	4.134	1.833	2.26	29.8	-119.4	74.6	3699	6.79	
	21/09/2020	2.615	4.644	4.134	1.519	2.24	26.5	88.3	282.3	7625	6.67	
	29/04/2021	1.889	4.770	4.134	2.245	2.62	27.7	-162	32.0	7616	6.61	
	14/04/2022	2.219	4.750	4.134	1.915	1.68	29.9	-34.1	159.9	7604	6.84	
	08/10/2022	2.375	4.750	4.134	1.759	0.29	25.7	-129.6	64.4	5132	7.43	
20/04/2023	1.783	4.700	4.134	2.351	0.58	27.5	-173.9	20.1	4201	6.60		
MW268	10/04/2018	1.861	4.983	3.626	1.765	1.11	31.6	40.3	234.3	27850	6.15	
	7/05/2019	1.868	4.983	3.626	1.758	1.80	31.4	-17.1	176.9	15903	6.68	
	21/04/2020	2.057	4.932	3.626	1.569	2.25	32.2	-50.8	143.2	27787	6.60	
	22/04/2021	1.747	4.930	3.626	1.879	24.40	28.4	-148.1	45.9	11144	6.67	
	20/04/2022	2.023	4.980	3.626	1.603	3.32	31.5	-134.2	59.8	28403	6.37	
	12/04/2023	1.862	4.940	3.626	1.764	2.34	29.8	-119.3	74.7	1773	6.51	
MW269	10/04/2018	1.434	5.020	5.456	4.022	3.44	33.6	33.7	227.7	174.4	6.94	
	7/05/2019	2.052	5.020	5.456	3.404	2.55	31.4	42.4	236.4	268.3	7.33	
	21/04/2020	2.076	5.006	5.456	3.380	5.66	34.1	4.3	198.3	190.9	7.20	
	29/04/2021	1.861	5.010	5.456	3.595	6.74	29.6	165.3	359.3	221.2	6.09	
	14/04/2022	2.222	5.030	5.456	3.234	5.54	32.9	99.3	293.3	374	6.89	
	13/04/2023	2.062	5.040	5.456	3.394			No field parameters				
MW270	10/04/2018	0.835	5.465	5.019	4.184	1.79	31.7	30.4	224.4	13580	6.58	
	7/05/2019	1.015	5.465	5.019	4.004	2.73	30.6	100.1	294.1	13673	6.88	
	21/04/2020	1.381	5.440	5.019	3.638	2.03	34.3	-0.7	193.3	17650	6.59	
	22/04/2021	0.895	5.450	5.019	4.124	2.26	29.1	47.2	241.2	13590	6.83	
	20/04/2022	1.406	5.510	5.019	3.613	3.49	31.2	187.0	381.0	14564	6.49	
	12/04/2023	0.899	5.470	5.019	4.120	2.53	31.1	32.9	226.9	13000	6.54	
MW467	14/08/2017	2.157	0.000	3.494	1.337	1.96	26.3	-42.1	151.9	573	6.97	
	6/05/2019	1.603	4.630	3.494	1.891	1.46	27.8	72.2	266.2	739	7.17	
	22/10/2019	2.400	4.659	3.494	1.094	1.27	26.8	73.5	267.5	678	7.53	
	20/04/2020	1.686	4.640	3.494	1.808	2.52	29.2	97.3	291.3	358	7.11	
	24/09/2020	2.277	4.644	3.494	1.217	2.02	28.2	-6.7	187.3	169.58	6.85	
	27/04/2021	1.672	4.620	3.494	1.822	1.97	27.0	-75.8	118.2	462.1	7.40	
	14/10/2021	2.225	4.620	3.494	1.269	2.96	29.0	-144.5	49.5	3801	7.68	
	14/04/2022	1.985	4.460	3.494	1.509	3.00	29.4	28.3	222.3	510	7.65	
	06/10/2022	2.120	4.460	3.494	1.374	0.59	27.2	-199.8	-5.8	535	7.46	
25/04/2023	2.716	4.930	3.494	0.778	1.97	29.1	-49.0	145.0	375	7.45		
MW471	28/05/2021	2.325	4.810	NA	NA	2.91	23.5	194.7	388.7	554	6.83	
	13/10/2021	3.061	4.810	NA	NA	0.11	28.6	118.5	312.5	644	7.32	
	19/04/2022	2.750	4.550	NA	NA	2.75	29.9	-147.3	46.7	734	7.77	
	08/10/2022	2.862	4.550	NA	NA			Insufficient water for parameters				
	25/04/2023	2.368	4.180	NA	NA	4.00	28.8	-41.6	152.4	730	7.51	

mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Redox Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre

µS/cm - microsiemens per centimetre
 °C - degrees Celsius
 "-" denotes no analysis recorded
 mV - millivolt

* Anomalous groundwater elevation omitted from inferred groundwater contours

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS							
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L								
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01								
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220				
PFAS NEMP 2020 Drinking Water																																0.07		0.07	0.56	0.07	
Location ID	Sample Date																																				
Sub-Management Area One																																					
MW013	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951						
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189						
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266						
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485						
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554						
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303						
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426						
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413						
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264						
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376						
	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	248	16.2	321	474						
	22/04/2022	<0.5	4.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.8	10.6	<0.5	<0.5	<0.5	12.2	11.2	66.9	83	13.7	20.6	<1.25	<0.5	<0.5	<0.5	305	19.6	388	568						
	19/10/2022	<0.08	4.57	<0.08	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	18.8	45	<0.08	<0.08	<0.08	11.8	17	66.4	84.3	12.4	19.4	<0.2	<0.08	<0.08	<0.08	59.9	18.4	144	358						
MW116	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261							
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214	408							
	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628						
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147							
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103						
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117							
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258							
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109							
	11/09/2020	<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337						
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3						
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	72.5	7.3	115	187						
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	7.83	2.7	<0.02	<0.02	<0.02	2.52	1.31	15.1	22.9	3.32	6.74	<0.06	<0.02	<0.02	<0.02	18.7	3.58	41.6	84.7						
	Decommissioned																																				
MW118	27/07/2017	<0.05	0.25	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98							
	28/07/2017	<0.05	0.24	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53							
	17/08/2017	<0.05	0.28	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08							
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41							
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	0.23	0.23	0.02	0.454	0.926							
	2/05/2019	0.001	0.888	0.081	<0.001	<0.005	<0.001	0.0005	<0.001	<0.005	<0.001	0.584	0.076	0.0044	0.001	<0.0005	0.397	0.198	1.09	2.34	0.47	0.421	<0.0005	<0.0005	<0.0005	0.0527	9.15	0.609	11.5	16.4							
	15/10/2019	<0.05	0.27	<0.05	<0.05	<0.02	<																														

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.13	220	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
Sub-Management Area Two																															
MW005	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	22.3	6.1	<0.05	<0.05	<0.05	9.5	26.4	92.1	388	5.53	31.6	<0.12	<0.05	<0.05	<0.05	234	14.6	622	830		
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	16.4	5	<0.10	<0.10	<0.10	5.21	14.9	54.9	270	8.92	20.1	<0.25	<0.10	<0.10	<0.10	135	7.41	405	538		
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	18.8	1.88	<0.0200	0.028	<0.0200	8.51	16.4	73.9	298	12	20.8	<0.0500	<0.0200	<0.0200	0.09	148	14.6	446	613	
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	29.1	<2.5	<0.50	<0.50	<0.50	11.8	35.8	112	590	7.3	33	<1.25	<0.50	<0.50	<0.50	494	19.6	1,080	1,330	
	16/10/2019	<0.10	0.42	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	33.8	5	<0.10	<0.10	<0.10	12	27.7	116	590	21.7	32.3	<0.25	<0.10	<0.10	0.13	260	18.9	850	1,120
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	19.9	<5.3	<0.50	<0.50	<0.50	8.7	18.4	76.2	372	12.4	24.8	<1.25	<0.50	<0.50	<0.50	232	12.5	604	777	
	7/09/2020	<0.49	<0.49	<0.49	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	<0.49	22.3	9	<0.49	<0.49	<0.49	7.89	17.6	79.7	364	13.2	24.2	<1.22	<0.49	<0.49	<0.49	174	13.2	538	725	
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	38	<50	<10	<10	<10	19	37	148	757	27	41	<25	<10	<10	<10	373	25	1,130	1460
	14/10/2021	<0.86	<0.86	<0.86	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	<0.86	50.8	18.1	<0.86	<0.86	<0.86	21.4	74.2	231	1050	32.4	65.6	<2.15	<0.86	<0.86	<0.86	745	37.7	1,800	2330	
	20/04/2022	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	48	15.5	<2.5	<2.5	<2.5	21.5	59.5	208	988	32.2	64.8	<6.25	<2.5	<2.5	<2.5	817	36.8	1,800	2290	
11/10/2022	<0.05	<0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	32.8	12.7	<0.05	<0.05	<0.05	15.2	95	368	944	27	122	<0.12	<0.05	<0.05	<0.14	692	30.3	1,640	2340		
26/04/2023	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	43.2	14.5	<0.22	<0.22	<0.22	20.5	89.2	186	835	30.6	75.4	<0.56	<0.22	<0.22	0.24	804	35.1	1,640	2130		
MW015	16/08/2017	<0.05	0.19	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	14.2	3.6	<0.02	<0.02	<0.02	5.51	13.1	96.2	332	2.79	23.2	<0.05	<0.02	<0.02	0.03	198	9.04	530	698
	16/04/2018	<0.10	0.21	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	206	52.2	<0.10	<0.10	<0.10	62.3	116	545	2,580	86.1	252	<0.25	<0.10	<0.10	0.19	960	86.3	3,540	4,950		
	19/12/2018	<0.020	0.202	0.068	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	84	4.39	0.022	0.058	<0.0200	24.3	67	270	1,010	37.8	151	<0.0500	<0.0200	<0.0200	0.178	306	38.9	1,320	1,990	
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	140	<2.5	<0.50	<0.50	<0.50	37.8	72.2	392	2,000	10.3	175	<1.25	<0.50	<0.50	<0.50	565	68.8	2,560	3,460	
	16/10/2019	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	14.2	3.2	<0.02	<0.02	<0.02	4.41	11.3	42.7	210	7.43	17.9	<0.05	<0.02	<0.02	0.05	108	9.14	318	428	
	30/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	110	<25.0	<5.00	<5.00	<5.00	32.5	61.5	326	1,450	42	141	<12.5	<5.00	<5.00	<5.00	334	46.5	1,780	2,540	
	7/09/2020	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	20.2	7	<0.5	<0.5	<0.5	6.1	12.7	60.6	230	10.4	18.3	<1.25	<0.5	<0.5	<0.5	164	11.8	394	541	
	29/04/2021	<2.17	<2.17	<2.17	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	<2.17	119	26.3	<2.17	<2.17	<2.17	39.1	67.8	349	1440	59.3	189	<5.43	<2.17	<2.17	<2.17	440	59.6	1880	2790	
	12/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	20.7	7	<0.5	<0.5	<0.5	6.73	20.2	64.9	276	9.86	29.1	<1.24	<0.5	<0.5	<0.5	137	12.6	413	584	
	21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	54.9	13.2	<1	<1	<1	15.2	29.9	130	538	22.9	60.8	<2.5	<1	<1	<1	370	28.6	908	1260	
11/10/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	16.9	5.2	<0.25	<0.25	<0.25	5.7	17.6	65.9	247	10.1	22.3	<0.62	<0.25	<0.25	<0.25	192	12.1	439	595		
27/04/2023	<0.91	<0.91	<0.91	<0.91	<2.27	<0.91	<2.27	<0.91	<2.27	<0.91	114	26	<0.91	<0.91	<0.91	30.5	68	337	1600	57.5	187	<2.27	<0.91	<0.91	<0.91	539	53.5	2,140	3010		
MW016	16/08/2017	<0.05	1.64	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	55.8	17.4	<0.02	0.04	<0.02	17.9	70.8	151	680	35.9	94.1	<0.05	<0.02	<0.02	0.26	395	49.1	1,080	1,570
	16/08/2017	<0.05	1.78	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	44.5	13.4	<0.05	<0.05	<0.05	15.8	49.4	135	544	9.66	71.4	<0.12	<0.05	<0.05	0.16	384	33.5	928	1,300	
	16/04/2018	<0.10	1.38	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	68.5	20.4	<0.10	<0.10	<0.10	21.9	87.9	166	909	31.1	84.1	<0.25	<0.10	<0.10	0.21	492	39.5	1,400	1,920	
	19/12/2018	<0.020	0.702	<0.020	<0.020	<0.050	<0.0200	<0.050	0.046	<0.050	<0.0200	22	1.09	0.022	0.032	<0.0200	7.99	25.6	70.4	328	10.9	29.5	<0.0500	<0.0200	<0.0200	0.178	267	18.4	595	782	
	30/04/2019	<0.10	1.17	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	39.2	<0.5	<0.10	<0.10	<0.10	13.1	52.7	96.3	657	2.58	49.8	<0.25	<0.10	<0.10	0.16	487	31.6	1,140	1,430	
	16/10/2019	<0.05	0.98	0.06	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	37.4	14.6	<0.02	<0.02	<0.02	12.6	31.6	106	534	20.8	45.2	<0.05	<0.02	<0.02	0.19	264	26.5	798	1,090	
	30/04/2020	<0.05	0.94	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	53.1	<4.8	<0.02	0.11	<0.02	15.4	37.3	133	710	24.4	75.4	<0.05	<0.02	<0.02	0.22	581	37.6	1,290	1,670	
	7/09/2020	<0.5	0.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	21	8.7	<0.5	<0.5	<0.5	7.15	21.2	61.6	273	12.4	19.8	<1.25	<0.5	<0.5	<0.5	348	16.6	621	790	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	21.4	7.5	<1	<1	<1	6.9	14.6	54	247	11.2	24.4	<2.5	<1	<1	<1	153	12.7	400	553	
	12/10/2021	<0.5	1.19	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	25.1	9.1	<0.5	<0.5	<0.5	8.53	27.7	69.6	339	13.5	33	<1.24	<0.5	<0.5	<0.5	264	17.8	603	808	
21/04/2022	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	26.2	7.4	<0.5	<0.5	<0.5	9.1	25.6	66.8	327	13.4	33.7	<1.25	<0.5	<0.5	<0.5	311	21.4	638	842		
10/10/2022	<1.04	<1.04	<1.04	<1.04	<2.6	<1.0																									

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSAE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220					
PFAS NEMP 2020 Drinking Water																												0.07		0.07	0.56	0.07	
Location ID	Sample Date																																
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102		
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2		
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7		
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99		
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161		
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152		
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143		
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154		
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7		
	13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196		
	21/04/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	3.69	<1.2	<0.23	<0.23	<0.23	0.68	2.01	7.61	22.9	1.91	3.99	<0.58	<0.23	<0.23	<0.23	82.8	1.82	106	127		
	11/10/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.38	0.8	<0.1	<0.1	<0.1	0.62	1.84	9.09	25	1.8	3.55	<0.25	<0.1	<0.1	<0.1	79.4	1.5	104	127		
26/04/2023	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	2	<0.5	<0.1	<0.1	<0.1	0.38	1.11	3.77	13.3	0.98	2.21	<0.25	<0.1	<0.1	<0.1	45.9	0.74	59.2	70.4			
MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	0.39	194	12.3	290	396		
	16/04/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	<0.0200	2.45	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257		
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198		
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	63.2	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254		
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235		
	7/09/2020	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	<0.24	3	3.61	25.2	61.5	5.05	8.95	<0.61	<0.24	<0.24	<0.24	109	8.54	170	238		
	28/04/2021	<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	6.68	<2.3	<0.45	<0.45	<0.45	3.27	4.04	20.4	64.4	5.09	11.1	<1.14	<0.45	<0.45	<0.45	170	8.14	234	293		
	13/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	1.19	<1.24	<0.5	<1.24	9.26	4.2	<0.5	<0.5	<0.5	3.62	5.55	29	74.5	5.5	10.5	<1.24	<0.5	<0.5	<0.5	200	10	274	353		
	21/04/2022	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	11.8	3	<0.5	<0.5	<0.5	3.95	5.2	32	80.4	6.25	12.2	<1.25	<0.5	<0.5	<0.5	196	9.8	276	361		
	10/10/2022	<0.53	<0.53	<0.53	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	8.46	<2.6	<0.53	<0.53	<0.53	3.14	4.04	25.7	75.9	5.21	9.1	<1.33	<0.53	<0.53	<0.53	153	8.24	229	293		
	26/04/2023	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.63	<0.61	<0.24	<0.61	4.29	<1.2	<0.24	<0.24	<0.24	1.27	2.46	10.8	33.1	2.98	4.68	<0.61	<0.24	<0.24	<0.24	94.8	3.71	128	159		
	MW081	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	256	12.2	<0.02	<0.02	<0.02	81.1	131	822	4,050	33.2	324	<0.05	<0.02	<0.02	0.17	2,310	130	6,360	8,150	
24/01/2018		<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	457	26.3	0.11	0.6	<0.02	204	515	1,390	8,520	152	826	<0.05	<0.02	<0.02	0.96	3,280	348	11,800	15,700		
16/04/2018		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.19	<0.12	<0.05	<0.12	127	19.8	0.1	0.33	<0.05	55.4	158	432	3,320	45.9	306	<0.12	<0.05	<0.05	<0.50	1,800	125	5,120	6,510		
16/04/2018		-	-	-	-	-	-	-	<0.50	-	-	-	141	86	<0.50	<0.50	-	58.4	190	976	3,430	91.9	359	-	-	-	0.73	-	146	5,230	7,160		
17/12/2018		<0.200	<0.200	<0.200	<0.200	<0.500	<0.200	<0.500	0.28	<0.500	<0.200	<0.500	177	1.86	<0.200	0.3	<0.200	103	372	558	6,490	51.4	238	<0.500	<0.200	<0.200	1.42	2,770	268	9,260	11,000		
30/04/2019		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	162	<2.5	<0.50	<0.50	<0.50	77.2	366	554	4,200	6.5	258	<1.25	<0.50	<0.50	<0.50	3,070	185	7,270	8,880		
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	167	17.4	0.08	0.34	<0.02	73	241	542	3,910	61.5	252	<0.05	<0.02	<0.02	0.75	2,420	151	6,330	7,840		
27/04/2020		<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	136	<25.0	<5.00	<5.00	<5.00	58	220	394	3,370	40	224	<12.5	<5.00	<5.00	<5.00	1,700	123	5,070	6,260		
7/09/2020		<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	106	<25	<5																		

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.13	220		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000	
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
	21/04/2022	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
	12/10/2022	<0.5	1.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15.6	8.4	<0.5	<0.5	<0.5	6.55	10.8	63	182	17.4	17.4	<1.25	<0.5	<0.5	<0.5	222	10	404	555	
	26/04/2023	<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	5.23	<2.3	<0.45	<0.45	<0.45	4.36	5.86	28.9	131	10.5	7.95	<1.14	<0.45	<0.45	<0.45	114	7.45	245	315	
	MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.12	<0.05	0.56	<0.05	<0.12	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546	
29/07/2017		<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
15/08/2017		<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
30/04/2019		<0.05	0.12	0.16	<0.05	<0.05	<0.12	<0.05	0.02	<0.05	<0.12	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	55.1	80.6	
16/10/2019		<0.05	0.16	0.11	<0.05	<0.05	<0.12	<0.05	0.05	<0.05	<0.12	<0.05	6.58	3.3	0.03	<0.02	<0.02	1.52	3.37	14.6	49	4.19	5.77	<0.05	<0.02	<0.02	0.06	60.4	2.76	109	152	
27/04/2020		<0.50	0.95	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	38.6	<16.8	<0.50	<0.50	<0.50	11.4	19.2	95.4	339	20.2	42.2	<1.25	<0.50	<0.50	<0.50	384	17.6	723	968	
7/09/2020		<1.2	<1.2	<1.2	<1.2	<3	<1.2	<3	<1.2	<3	<1.2	<3	64	28.8	<1.2	<1.2	<1.2	14.9	25.2	144	474	33.2	56.5	<3	<1.2	<1.2	<1.2	427	30.1	901	1300	
29/04/2021		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	8.6	5.2	<1	<1	<1	2.2	3.3	19.4	56	5.6	8.6	<2.5	<1	<1	<1	83.1	2.9	139	195	
12/10/2021		<0.5	0.74	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	19.1	10	<0.5	<0.5	<0.5	5	9.7	51.5	145	11.4	19.8	<1.24	<0.5	<0.5	<0.5	181	8.27	326	462	
21/04/2022		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	48.7	25.4	<1	<1	<1	12.5	23.8	116	383	30.4	51.3	<2.5	<1	<1	<1	476	21.6	859	1190	
12/10/2022		<0.25	0.4	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	32.8	18.1	<0.25	<0.25	<0.25	9.3	17.2	103	278	22.4	37.7	<0.62	<0.25	<0.25	<0.25	311	15.5	589	845	
26/04/2023		<0.37	2.56	<0.37	<0.37	<0.92	<0.37	<0.92	<0.37	<0.92	<0.37	<0.92	94.5	38.7	<0.37	<0.37	<0.37	30.1	80.6	257	789	56.2	123	<0.92	<0.37	<0.37	<0.37	1,080	61.4	1,870	2,610	
MW139		15/08/2017	0.12	13.4	0.14	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	38.3	15.8	<0.05	0.08	<0.05	14	37.6	109	309	24.1	50.9	<0.12	<0.05	<0.05	0.29	778	44.7	1,090	1,440
		15/08/2017	0.24	21.8	0.46	<0.05	<0.12	<0.05	<0.12	0.62	<0.12	<0.05	<0.12	40.8	16.6	<0.05	0.19	<0.05	19.6	28.8	129	298	23.1	39.4	<0.12	<0.05	<0.05	0.3	564	32.4	862	1,220
	16/04/2018	0.16	39.2	0.76	<0.10	<0.25	<0.10	<0.25	0.78	<0.25	<0.10	<0.25	67.1	27.4	<0.10	0.53	<0.10	32.4	58.7	212	557	36.5	87.1	<0.25	<0.10	<0.10	0.38	1,660	53	2,220	2,830	
	19/12/2018	0.17	16.9	0.676	<0.020	<0.050	<0.0200	<0.050	0.416	<0.050	<0.0200	<0.050	52.1	2.73	0.048	0.314	<0.0200	24.1	39.3	165	380	31.3	5.85	<0.0500	<0.0200	<0.0200	0.338	836	46.3	1,220	1,600	
	30/04/2019	<0.50	27.2	0.85	<0.50	<1.25	<0.50	<1.25	0.75	<1.25	<0.50	<1.25	49	2.5	<0.50	<0.50	<0.50	24.1	37.7	148	343	7.7	47	<1.25	<0.50	<0.50	<0.50	1,050	46.8	1,390	1,780	
	16/10/2019	0.12	20.7	0.52	<0.10	<0.25	<0.10	<0.25	0.55	<0.25	<0.10	<0.25	45.4	21.8	<0.10	<0.10	<0.10	22.5	30.3	150	333	27.3	45	<0.25	<0.10	<0.10	0.3	753	38.9	1,090	1,490	
	27/04/2020	<5.00	22	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	45.5	<25.0	<5.00	<5.00	<5.00	17.5	31	114	302	25	48.5	<12.5	<5.00	<5.00	<5.00	802	42	1,100	1,450	
	7/09/2020	<5	12	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	39.5	<25	<5	<5	<5	17	24	112	225	23	35	<12.5	<5	<5	<5	498	28.5	723	1010	
	29/04/2021	<10	27	<10	<10	<25	<10	<25	<10	<25	<10	<25	53	<50	<10	<10	<10	29	64	161	407	36	47	<25	<10	<10	<10	1520	57	1930	2400	
	12/10/2021	<0.5	5.83	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	13.8	6	<0.5	<0.5	<0.5	6.98	10.6	45.8	90.5	8.37	13.8	<1.25	<0.5	<0.5	<0.5	230	12.8	320	444</	

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection	LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.13	220					
PFAS NEMP 2020 Drinking Water																														0.07	0.56	0.07			
Location ID	Sample Date																																		
MW251	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	1.18	1.18			
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	2.7	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	7.03	0.35	17.3	27.6
	19/12/2018	-	-	-	-	-	-	-	0.056	-	-	-	9	5.57	-	-	-	1.42	2.85	31.6	47.6	6.37	6.92	-	-	-	0.038	33.6	1.99	75.7	130				
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.34	<0.2	<0.05	<0.05	<0.05	0.2	0.26	3.08	8.04	0.16	1.74	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	3.99	0.23	12	20		
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.56	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.87	1.92	0.15	0.41	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	1.46	<0.10	3.38	5.37		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.43	1.77	0.06	0.22	<0.05	<0.02	<0.02	<0.02	<0.02	0.82	0.06	2.59	3.69			
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.26	0.72	0.04	0.12	<0.05	<0.02	<0.02	<0.02	0.31	0.02	1.03	1.65				
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.48	<0.2	<0.05	<0.05	<0.05	0.21	0.27	2.34	6.76	0.4	1.2	<0.12	<0.05	<0.05	<0.05	<0.05	1.75	0.24	8.51	14.6			
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.36				
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.18	<0.01	0.43	0.54				
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.28	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.3	<0.01	0.58	0.71				
28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.37	<0.1	<0.02	<0.02	<0.02	0.03	0.1	0.56	1.8	0.1	0.33	<0.06	<0.02	<0.02	<0.02	1.44	0.06	3.24	4.79					
Sub-Management Area Three																																			
MW009	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.44	<0.05	<0.02	<0.05	1.52	0.2	<0.02	<0.02	<0.02	0.24	0.73	2.54	9.94	0.3	1.4	<0.05	<0.02	<0.02	<0.02	<0.02	18.8	0.8	28.7	36.9			
	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.12	<0.05	<0.02	<0.05	0.82	0.1	<0.02	<0.02	<0.02	0.2	0.23	1.52	7.77	0.37	1.25	<0.05	<0.02	<0.02	<0.02	12.7	0.62	20.5	25.7				
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.26	0.64	2.1	9.31	0.41	1.26	<0.05	<0.02	<0.02	<0.02	11.3	0.97	20.6	27.7				
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	0.7	<0.2	<0.05	<0.05	<0.05	0.18	0.37	1.36	5.43	0.24	0.63	<0.12	<0.05	<0.05	<0.05	10	0.52	15.4	19.6				
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.286	<0.020	<0.0200	<0.0200	<0.0200	0.152	0.148	0.756	3.9	0.174	0.318	<0.0500	<0.0200	<0.0200	0.022	3.13	0.218	7.03	9.1				
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.54	<0.12	<0.05	<0.12	0.84	<0.2	<0.05	<0.05	<0.05	0.25	0.74	2.09	6.68	0.28	0.78	<0.12	<0.05	<0.05	<0.05	24.9	0.82	31.6	37.9				
	15/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	0.2	<0.25	<0.10	<0.25	1.19	<0.5	<0.10	<0.10	<0.10	0.38	0.67	2.8	9.91	0.57	1.17	<0.25	<0.10	<0.10	<0.10	15.1	1.04	25	33				
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	0.79	<0.2	<0.05	<0.05	<0.05	0.24	0.66	1.75	7.47	0.39	0.94	<0.12	<0.05	<0.05	<0.05	13.2	0.71	20.7	26.2				
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	0.26	<0.09	<0.04	<0.09	1.01	0.3	<0.04	<0.04	<0.04	0.31	0.75	2.39	9.33	0.45	1.02	<0.09	<0.04	<0.04	<0.04	15	0.98	24.3	31.8				
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.19	<0.25	<0.1	<0.25	1.29	<0.5	<0.1	<0.1	<0.1	0.45	0.85	2.91	10.3	0.58	1.31	<0.25	<0.1	<0.1	<0.1	16.6	1.11	26.9	35.6				
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.21	<0.06	<0.02	<0.06	1.4	<0.4	<0.02	<0.02	<0.02	0.47	1.03	3.38	11.8	0.67	1.55	<0.06	<0.02	<0.02	<0.02	17	1.34	28.8	38.8				
	13/04/2022	<0.05	<0.08	<0.05	<0.05	<0.13	<0.05	<0.13	0.23	<0.13	<0.05	<0.13	1.42	<0.2	<0.05	<0.05	<0.05	0.43	0.89	3.58	11.3	0.63	1.34	<0.13	<0.05	<0.05	<0.05	17.6	1.36	28.9	38.8				
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.3	1.85	0.05	0.29	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	1.93	2.86				
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.27	<0.05	<0.02	<0.05	1.76	0.5	<0.02	<0.02	<0.02	0.59	2	4.6	18.2	0.8	2.75	<0.05	<0.02	<0.02	<0.02	30.1	1.9	48.3	63.5				
MW038	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.51	<0.1	<0.02	<0.02	<0.02	0.13	0.12	0.67	4.37	0.2	0.74	<0.05	<0.02	<0.02	<0.02	1.96	0.23	6.33	8.93				
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	6.72	<0.05	0.04	<0.05	54	16	0.1	5.58	<0.02	17.6	21.5	254	520	31.8	56.2	<0.05	<0.02	0.05	0.57	534	60.5	1,050	1,580				
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.252	<0.020	<0.0200	<0.0200	<0.0200	0.028	0.096	0.192	1.9	0.046	0.222	<0.0500	<0.0200	<0.0200	<0.0200	1.41	0.08	3.31	4.23				
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	0.1	0.04	<0.02	<0.02	0.09	0.07	0.39	1.59	0.11	0.26	<0.05	<0.02	<0.02	0.02	1.49	0.14	3.08	4.56				
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02																												

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW004	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.06	0.09
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.14	0.16
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0325	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	0.0018	0.0507	<0.0005	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.052	0.0017	0.103	0.147
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.012	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0013	0.0272	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	0.0319	<0.0005	0.0591	0.0767
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.18
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.06
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.09	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.07
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.12	0.16	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.05	0.05	
10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.09	0.09		
27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
MW026	30/06/2017	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.43	0.6	<0.02	<0.02	<0.02	0.4	0.93	3.22	10.4	0.51	1.44	<0.05	<0.02	<0.02	<0.02	46.4	1.06	56.8	66.7		
	27/07/2017	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	0.89	0.3	<0.02	<0.02	<0.02	0.47	0.7	2.18	8.92	0.52	1.3	<0.05	<0.02	<0.02	<0.02	31	0.92	39.9	47.5		
	17/08/2017	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	0.91	0.2	<0.02	<0.02	<0.02	0.43	0.89	2.94	10.7	0.65	1.42	<0.05	<0.02	<0.02	<0.02	24.9	1.24	35.6	44.6		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.13	0.29	0.81	3.06	0.17	0.34	<0.05	<0.02	<0.02	<0.02	12.5	0.33	15.6	18.1		
	18/12/2018	<0.020	0.23	<0.020	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	2.04	<0.020	<0.0200	0.034	<0.0200	0.806	1.81	5.4	19.6	1.06	2.11	<0.0500	<0.0200	<0.0200	0.02	45.3	1.89	64.9	80.4		
	2/05/2019	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	0.97	0.2	<0.02	<0.02	<0.02	0.41	0.98	2.62	9.25	0.49	1.14	<0.05	<0.02	<0.02	<0.02	37.9	0.97	47.2	55.3		
	31/05/2019	<0.1	0.11	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.77	<0.5	<0.1	<0.1	<0.1	0.4	0.57	2.5	7.06	0.51	0.77	<0.25	<0.1	<0.1	<0.1	22.8	0.88	29.9	36.4		
	14/10/2019	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	0.98	0.3	<0.02	<0.02	<0.02	0.41	0.84	2.9	9.22	0.62	0.86	<0.05	<0.02	<0.02	<0.02	30.2	0.95	39.4	47.5		
	28/04/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	0.48	0.3	<0.02	0.07	<0.02	0.25	1.05	1.58	5.31	0.33	0.74	<0.05	<0.02	<0.02	<0.02	27.4	0.64	32.7	38.4		
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	0.13	<0.1	<0.04	<0.1	0.11	<0.2	<0.04	<0.1	<0.04	0.05	0.22	0.42	2.16	0.08	0.14	<0.1	<0.04	<0.04	<0.04	19.2	0.21	21.4	22.7		
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.1	<0.25	<0.1	<0.25	0.1	<0.5	<0.1	<0.1	<0.1	<0.1	0.41	0.33	1.68	<0.1	0.11	<0.25	<0.1	<0.1	<0.1	17.8	0.23	19.5	20.8		
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.09	<0.12	<0.05	<0.12	0.1	<0.2	<0.05	<0.05	<0.05	0.06	0.35	0.3	1.72	0.07	0.12	<0.12	<0.05	<0.05	<0.05	16.2	0.21	17.9	19.2		
	21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	0.11	<0.24	<0.1	<0.24	0.14	<0.5	<0.1	<0.1	<0.1	<0.1	0.57	0.41	2.58	<0.1	0.16	<0.24	<0.1	<0.1	<0.1	27.1	0.31	29.7	31.4		
13/10/2022	<0.05	0.08	<0.05	<0.05	<0.06	<0.02	<0.06	0.05	<0.06	<0.02	<0.06	<0.22	<0.1	<0.02	<0.02	<0.02	0.05	0.34	0.41	1.72	0.06	0.12	<0.06	<0.02	<0.02	<0.02	13.4	0.18	15.1	16.4			
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	0.04	<0.11	<0.04	<0.11	0.3	<0.2	<0.04	<0.04	<0.04	0.11	0.48	0.7	2.94	0.16	0.29	<0.11	<0.04	<0.04	<0.04	18.2	0.34	21.1	23.5			
MW033	18/08/2017	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.98	<0.05	<0.02	<0.05	1.36	<0.1	0.02	0.29	<0.02	0.65	0.9	2	10.6	1.13	0.96	<0.05	<0.02	<0.02	0.04	28	1.42	38.6	48.6		
	17/04/2018	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.6	<0.05	<0.02	<0.05	0.79	0.6	0.04	0.54	<0.02	1.01	0.77	2.88	7.99	1.07	0.92	<0.05	<0.02	<0.02	0.13	30.7	1.71	38.7	50		
	18/12/2018	<0.020	0.09	0.148	<0.020	<0.050	<0.0200	<0.050	0.424	<0.050	<0.0200	<0.050	0.602	0.068	0.064	0.43	<0.0200	1.11	0.708	2.61	7.21	1.09	0.632	<0.0500	<0.0200	<0.0200	0.116	41.4	2.05	48.6	58.8		
	2/05/2019	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.33	<0.05	<0.02	<0.05	0.6	<0.1	0.06	0.38	<0.02	0.74	0.62	2.38	4.86	0.34	0.65	<0.05	<0.02	<0.02	0.12	26.7	1.11	31.6	39		
	15/10/2019	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	1.11	0.5	0.05	0.13	<0.02	0.96	1.11	3.39	11	1.2	0.98	<0.05	<0.02	<0.02	0.12	25.6	1.78	36.6	48.4		
	28/04/2020	<0.05	0.08	<0.05																													

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW121	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.87	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	2.13	0.04	0.64	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	2.25	4.03
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	2.39	<0.10	0.79	<0.25	<0.10	<0.10	<0.10	0.32	<0.10	2.71	5.21
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	1.59	<0.05	0.49	<0.12	<0.05	<0.05	<0.05	0.15	<0.05	1.74	3.21
	18/10/2019	<0.15	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.23	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.39	3.12	<0.10	0.84	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	3.24	5.7
MW122	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.13	0.17	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.0075	0.0271	0.0029	0.0048	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0009	0.0326	0.0657
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0611	<0.002	<0.0005	<0.0005	<0.0005	0.003	0.0063	0.0244	0.152	0.0054	0.0191	<0.0005	<0.0005	<0.0005	<0.0005	0.0664	0.0046	0.218	0.342
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.31	<0.02	0.03	<0.05	<0.02	<0.02	0.84	0.01	1.15	1.29
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.22
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.16	0.28
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.05	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	0.11
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.11	0.18
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.07	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	0.18
27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	<0.02	0.02	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.13	
MW135	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.12	0.21	
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.68	0.7	<0.05	<0.05	<0.05	0.08	0.22	1.42	10.2	0.26	0.93	<0.12	<0.05	<0.05	<0.05	0.97	0.09	11.2	15.6
	17/04/2018	<0.10	0.1	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.67	<0.5	<0.10	<0.10	<0.10	<0.10	0.16	1.15	7.89	0.21	0.71	<0.25	<0.10	<0.10	<0.10	0.87	<0.10	8.76	11.8
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.131	<0.002	<0.0005	<0.0005	<0.0005	0.0146	0.0444	0.212	1.41	0.0318	0.139	<0.0005	<0.0005	<0.0005	<0.0005	0.428	0.01	1.92	2.51
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.64	<0.5	<0.10	<0.10	<0.10	<0.10	0.85	6.04	0.15	0.71	<0.25	<0.10	<0.10	<0.10	0.22	<0.10	6.26	8.61	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.55	<0.2	<0.05	<0.05	<0.05	<0.05	0.11	0.54	5.74	<0.05	0.57	<0.12	<0.05	<0.05	<0.05	0.7	<0.05	6.44	8.21
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	0.1	<0.02	<0.02	<0.02	0.02	0.07	0.51	3.45	0.11	0.57	<0.05	<0.02	<0.02	0.27	0.02	3.72	5.72	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	<0.02	0.14	0.82	0.04	0.29	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.9	1.75	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.71	<0.2	<0.04	<0.04	<0.04	<0.06	0.05	0.63	4.08	0.11	0.66	<0.09	<0.04	<0.04	<0.04	0.27	<0.04	4.35	6.51
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.42	<0.1	<0.02	<0.02	<0.02	<0.02	0.26	1.61	0.04	0.34	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	1.67	2.73	
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	<0.1	<0.02	<0.02	<0.02	0.03	0.05	13.4	0.17	0.11	0.72	<0.05	<0.02	<0.02	<0.02	0.16	0.02	0.33	15.3
28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.47	3.41	0.1	0.63	<0.05	<0.02	<0.02	<0.02	0.17	0.02	3.58	5.39	
MW136	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.24	0.96	0.14	0.14	<0.05	<0.02	<0.02	0.81	0.04	1.77	2.59	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.22	0.58	0.1	0.07	<0.05	<0.02	<0.02	<0.02	1.15	0.03	1.73	2.33
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0335	0.006	<0.0005	0.0012	<0.0005	0.0105	0.0152	0.0495	0.218	0.0269	0.0341	<0.0005	<0.0005	<0.0005	0.0012	0.43	0.0125	0.648	0.839
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.11	0.4	0.05	0.05	<0.05	<0.02	<0.02	<0.02	0.45	0.02	0.85	1.17
	29/04/2020	<0.05																													

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.13	220	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW223	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.95	<0.1	<0.02	<0.02	<0.02	0.09	0.22	0.67	4.94	0.23	0.64	<0.05	<0.02	<0.02	<0.02	6.64	0.23	11.6	14.6
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	0.18	0.17	1.14	4.61	0.27	0.65	<0.05	<0.02	<0.02	<0.02	9.89	0.37	14.5	18.3
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.44	<0.020	<0.0200	<0.0200	<0.0200	0.108	0.138	0.612	2.97	0.128	0.328	<0.0500	<0.0200	<0.0200	<0.0200	6.73	0.252	9.7	11.7
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.54	0.2	<0.02	<0.02	<0.02	0.15	0.25	0.99	3.79	0.23	0.49	<0.05	<0.02	<0.02	<0.02	16	0.33	19.8	23
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	0.2	<0.02	<0.03	<0.02	0.13	0.17	0.92	3.08	0.22	0.56	<0.05	<0.02	<0.02	<0.02	6.75	0.21	9.83	12.7
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	0.42	0.2	<0.04	<0.08	<0.04	0.15	0.14	1.23	3.45	0.25	0.49	<0.1	<0.04	<0.04	<0.04	10.8	0.32	14.2	17.4
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.54	0.3	<0.05	<0.05	<0.05	0.22	0.16	1.28	3.38	0.36	0.52	<0.12	<0.05	<0.05	<0.05	5.35	0.24	8.73	12.4
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	0.04	<0.09	<0.04	<0.09	0.2	0.3	<0.04	<0.04	<0.04	0.22	0.09	1.57	1.56	0.31	0.19	<0.09	<0.04	<0.04	<0.04	6.87	0.15	8.43	11.5
	12/04/2022	<0.05	0.09	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.22	0.1	<0.02	<0.02	<0.02	0.17	0.06	1.3	1.61	0.28	0.21	<0.06	<0.02	<0.02	<0.02	3.18	0.12	4.79	7.34
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.1	<0.02	0.02	<0.02	0.15	0.18	1.06	2.84	0.23	0.39	<0.05	<0.02	<0.02	<0.02	7.12	0.22	9.96	12.7
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.75	0.2	<0.02	<0.02	<0.02	0.23	0.22	1.42	4.8	0.33	0.86	<0.06	<0.02	<0.02	<0.02	5.78	0.3	10.6	14.9	
MW224	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.43	0.09	0.07	<0.05	<0.02	<0.02	0.03	0.36	0.02	0.79	1.33
	18/04/2018	<0.05	0.13	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.18	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	0.83	0.08	0.06	<0.12	<0.05	<0.05	0.1	1.2	<0.05	2.03	2.7	
	17/12/2018	<0.002	0.143	0.005	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.11	<0.002	<0.0020	<0.0020	<0.0020	0.0762	0.0142	0.191	0.396	0.239	0.0638	<0.0050	<0.0020	<0.0020	0.101	0.329	0.0356	0.725	1.7
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.6	<0.02	0.1	<0.05	<0.02	<0.02	0.03	0.92	0.02	1.52	1.89
	14/10/2019	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.33	0.12	0.04	<0.05	<0.02	<0.02	0.14	0.5	0.04	0.83	1.52
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02	0.06	0.2	0.34	2	0.15	0.35	<0.05	<0.02	<0.02	0.04	3.76	0.09	5.76	7.59
	23/09/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.29	0.13	0.05	<0.05	<0.02	<0.02	0.08	0.34	0.04	0.63	1.27
	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.08	0.19	1.49	0.12	0.28	<0.05	<0.02	<0.02	0.05	1.66	0.05	3.15	4.52
	13/10/2021	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.08	<0.02	0.17	0.32	0.16	0.06	<0.05	<0.02	<0.02	0.12	0.32	0.04	0.64	1.52
	12/04/2022	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.28	0.18	0.05	<0.05	<0.02	<0.02	0.09	0.19	0.04	0.47	1.24
12/10/2022	<0.05	0.07	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.09	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.09	0.41	0.08	0.07	<0.06	<0.02	<0.02	0.03	0.32	<0.02	0.73	1.2	
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	0.2	<0.02	<0.02	<0.02	0.04	0.21	0.29	2.52	0.11	0.6	<0.05	<0.02	<0.02	<0.02	4.06	0.08	6.58	8.7	
MW226	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0576	0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0026	0.071	0.0023	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0201	0.0013	0.0911	0.163
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0533	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0271	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.016	0.0012	0.0431	0.105	
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0219	<0.002	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0304	<0.0005	0.0049	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	<0.0005	0.0521	0.0804	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0067	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0155	0.0248	
	25/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.35	
	23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0																							

Table T2: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSAE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS			
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																		
PFAS NEMP 2020 Drinking Water																																		
Location ID	Sample Date																																	
MW232	10/07/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.66	0.3	<0.02	<0.02	<0.02	0.68	0.8	2.77	14.6	0.7	3.13	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	10.4	0.97	25	37.1	
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.48	2.4	<0.10	<0.10	<0.10	0.44	0.8	1.72	11.6	<0.10	1.93	<0.25	<0.10	<0.10	<0.10	<0.10	12.9	0.73	24.5	34		
	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.49	0.1	<0.02	<0.02	<0.02	0.23	1	1.41	13	0.51	1.73	<0.05	<0.02	<0.02	<0.02	9.52	0.58	22.5	30.7			
	24/01/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.07	0.4	<0.02	<0.02	<0.02	0.3	0.48	1.82	7.59	0.41	1.07	<0.05	<0.02	<0.02	<0.02	8.72	0.59	16.6	22.8			
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.2	<0.02	<0.02	<0.02	0.11	0.41	0.61	3.53	0.16	0.49	<0.05	<0.02	<0.02	<0.02	9.46	0.29	13.8	16.6			
	17/12/2018	<0.020	0.068	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.32	<0.020	<0.0200	<0.0200	<0.0200	0.322	0.57	2.14	9.45	0.476	1	<0.0500	<0.0200	<0.0200	<0.0200	9.96	0.706	19.4	26			
	2/05/2019	<0.001	0.01	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.318	0.023	0.0006	0.0006	<0.0005	0.113	0.167	0.498	2.54	0.149	0.313	<0.0005	<0.0005	<0.0005	0.004	3.79	0.17	6.33	8.1			
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.2	<0.02	<0.02	<0.02	0.15	0.26	0.86	3.51	0.24	0.48	<0.05	<0.02	<0.02	<0.02	4.74	0.27	8.25	11.3			
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.11	0.27	0.74	3.06	0.18	0.43	<0.05	<0.02	<0.02	<0.02	5.77	0.24	8.83	11.6			
	11/09/2020	<0.52	<0.52	<0.52	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	0.78	<2.6	<0.52	<0.52	<0.52	<0.52	<0.52	1.46	6.12	<0.52	0.73	<1.31	<0.52	<0.52	<0.52	13.8	0.52	19.9	23.4			
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.28	<0.2	<0.05	<0.05	<0.05	0.08	0.16	0.32	2.54	0.12	0.33	<0.13	<0.05	<0.05	<0.05	4.56	0.13	7.1	8.52			
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.69	0.2	<0.02	<0.02	<0.02	0.2	0.45	1	5.2	0.29	0.69	<0.06	<0.02	<0.02	<0.02	10.7	0.37	15.9	19.8			
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.51	<0.2	<0.05	<0.05	<0.05	0.13	0.26	0.7	3.64	0.21	0.46	<0.12	<0.05	<0.05	<0.05	12.3	0.3	15.9	18.5			
	5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.07	0.16	0.38	2.65	0.11	0.27	<0.05	<0.02	<0.02	<0.02	5.72	0.15	7.77	9.19			
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.41	0.1	<0.02	<0.02	<0.02	0.05	0.17	0.37	3.5	0.13	0.48	<0.06	<0.02	<0.02	<0.02	3.88	0.12	7.38	9.21				
MW234	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	0.07	<0.05	0.22	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.09	0.06	0.44			
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	0.15		
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0229	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0042	0.0069	0.0609	0.0032	0.0102	<0.0005	<0.0005	<0.0005	0.0007	0.112	0.0119	0.173	0.235			
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0044	0.0068	0.0647	0.003	0.0136	<0.0005	<0.0005	<0.0005	0.0005	0.0915	0.01	0.156	0.212			
	25/10/2019	<0.10	<0.10	<0.20	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	0.12	0.12			
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.17	0.2			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.2	0.23			
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.12	0.12			
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.1			
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	0.03	0.12	0.15			
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.04	0.14	0.18			
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.03	0.03			
	MW235	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	0.07	<0.05	0.22	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.09	0.06	0.44		
		19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.001	<0.001	<0.0005	0.0449	0.014	<0.0005	<0.0005	<0.0005	0.0658	0.0104	0.213	0.13	0.128	0.0185	<0.0005	<0.0005	<0.0005	0.004	0.121	0.171	0.251	0.922			
3/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0412	0.016	<0.0005	<0.0005	<0.0005	0.0769	0.0038	0.206	0.0866	0.168	0.0184	<0.0005	<0.0005	<0.0005	0.0046	0.0333	0.113	0.12	0.768			
29/04/2020		<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.1	<0.02	0.2	0.09	0.17	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.18	0.14	0.98			
20/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	0.1	<0.02	<0.02	<0.02	0.17	<0.02	0.41	0.09	0.28	<0.02	<0.05	<0.02</									

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.13	220	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW244	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.6	<0.2	<0.05	<0.05	<0.05	1.17	0.9	13.1	37.6	1.56	7.56	<0.12	<0.05	<0.05	<0.05	1.96	1.1	39.6	70.6
	24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	33.3	1.7	<0.02	<0.02	<0.02	5.12	5.88	61.9	191	6.84	36.2	<0.05	<0.02	<0.02	<0.02	27.3	7.32	218	377
	19/04/2018	-	-	-	-	-	-	-	-	-	-	-	4.73	<0.5	-	-	-	0.63	0.8	9.69	25.9	1.27	4.61	-	-	-	-	16.2	0.84	42.1	61.2
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	19	0.368	<0.0200	<0.0200	<0.0200	3.43	7.83	38.7	112	3.42	19.7	<0.0500	<0.0200	<0.0200	0.026	60.2	5.08	172	270
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	55	<0.2	<0.05	<0.05	<0.05	3.62	3.54	49.4	123	<0.05	27	<0.12	<0.05	<0.05	<0.05	19.4	12	142	293
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	21	1.5	<0.10	<0.10	<0.10	3.09	2.25	38.5	112	4.56	21.7	<0.25	<0.10	<0.10	<0.10	9.03	3.5	121	217
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.07	0.7	<0.02	<0.02	<0.02	1.18	1.14	10.6	38.7	1.78	8.46	<0.05	<0.02	<0.02	<0.02	7.18	1.35	45.9	79.2
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.7	0.6	<0.05	<0.05	<0.05	0.8	0.73	9.79	22.9	1.24	3.62	<0.12	<0.05	<0.05	<0.05	5.55	1.02	28.4	52
	16/10/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	0.2	<0.02	<0.02	<0.02	0.06	0.14	1.06	2.24	0.24	0.41	<0.05	<0.02	<0.02	<0.02	3.05	0.11	5.29	8.18
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.02	0.05	0.64	0.89	0.17	0.19	<0.05	<0.02	<0.02	<0.02	2	0.04	2.89	4.38
11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	<0.1	<0.02	<0.02	<0.02	0.08	0.18	1.1	3.21	0.19	0.64	<0.05	<0.02	<0.02	<0.02	3.43	0.13	6.64	9.6	
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.12	0.23	1.56	4.54	0.27	1.12	<0.05	<0.02	<0.02	<0.02	6.65	0.17	11.2	15.8	
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7	0.3	<0.02	<0.02	<0.02	0.33	1.48	3.73	20	1.09	4.39	<0.05	<0.02	<0.02	<0.02	4.7	0.55	24.7	43.6	
24/01/2018	-	2.02	-	-	-	-	-	-	-	-	-	31.2	24.6	-	-	-	20.5	20.5	-	357	18.6	44.6	-	-	-	-	59.1	32.6	416	686	
17/04/2018	<0.05	<0.10	<0.10	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	18.5	8.3	<0.02	<0.02	<0.02	13.2	9.32	54.4	259	8.59	30.4	<0.05	<0.02	<0.02	0.11	59.6	21	319	486	
17/12/2018	<0.020	0.77	0.14	<0.020	<0.050	<0.0200	<0.050	0.078	<0.050	<0.0200	<0.050	11.6	1.18	0.022	<0.0200	<0.0200	6.89	6.07	26.3	114	6.33	12.8	<0.0500	<0.0200	<0.0200	0.12	30.9	11.3	145	228	
1/05/2019	<0.05	0.44	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	16.2	6.4	<0.02	<0.02	<0.02	8.42	7.09	46.5	123	8.73	27.7	<0.05	<0.02	<0.02	0.07	37.1	12.9	160	294	
15/10/2019	<0.05	1.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	56.9	17.2	<0.02	<0.02	<0.02	24.8	10.7	151	352	31	57	<0.05	<0.02	<0.02	0.09	33.8	24.9	386	760	
27/04/2020	<0.24	0.76	<0.24	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	16.7	6.9	<0.24	<0.24	<0.24	11.3	6.89	50.3	168	9.09	23	<0.60	<0.24	<0.24	<0.24	43.1	12.9	211	349	
7/09/2020	<0.32	0.52	<0.32	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	28	12.4	<0.32	<0.32	<0.32	10.9	6.78	84.2	139	16.3	28	<0.81	<0.32	<0.32	<0.32	29.7	14.2	169	370	
30/04/2021	<0.47	0.57	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	9.06	4	<0.47	<0.47	<0.47	6.51	8.16	29.2	114	5.99	13.4	<1.18	<0.47	<0.47	<0.47	47.1	12.9	161	251	
13/10/2021	<0.48	2.48	<0.48	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	32.2	12.2	<0.48	<0.48	<0.48	21.1	21.8	114	328	17.6	50.5	<1.2	<0.48	<0.48	<0.48	81.7	33.4	410	715	
12/04/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	16.4	4.8	<0.48	<0.48	<0.48	7.62	8.1	50.8	138	8.9	21.3	<1.19	<0.48	<0.48	<0.48	66.8	13.2	205	336	
12/10/2022	<0.24	0.49	0.41	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	16	6.1	<0.24	<0.24	<0.24	7.15	4.9	57.3	91.2	9.61	19.3	<0.61	<0.24	<0.24	<0.24	37.7	8.27	129	258	
4/05/2023	<0.22	0.47	0.51	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	16.9	5.3	<0.22	<0.22	<0.22	7.78	7.82	47.4	109	10.1	24.6	<0.56	<0.22	<0.22	0.27	49.1	9.84	158	289	
24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.05	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	0.48	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.34	<0.05	0.82	0.95		
19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.06	<0.02	<0.02	<0.12	<0.05	<0.02	<0.02	<0.02	0.14	<0.02	0.2	0.24	
4/12/2018	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0667	0.009	<0.0005	<0.0005	<0.0005	0.0069	0.0081	0.02	0.126	0.0134	0.014	<0.0005	<0.0005	<0.0005	0.0024	0.255	0.0189	0.381	0.543	
20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.005	<0.002	<0.0005	<0.0005	<0.0005	0.0056	0.0007	0.015	0.0116	0.0138	0.0017	<0.0005	<0.0005	<0.0005	0.0005	0.0076	0.0111	0.0192	0.0726	
3/05/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	<0.002	0.012	0.026	-	0.005	-	-	-	-	0.0135	0.0031	0.0382	0.097	
25/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	0.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.8	
29/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.08	
9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.07	0.11	
20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01			

Table T2: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS													
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L														
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01														
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																											
PFAS NEMP 2020 Drinking Water																																											
Location ID	Sample Date																																										
MW208	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.03	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.14	0.31			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.23		
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.138	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.004	0.0112	0.197	0.0081	0.0255	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.05	0.01	0.247	0.456	
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.28	0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.34	0.58
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.13	0.25	
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.15	<0.05	0.15	0.23
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.24	0.35
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.23	0.36
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.21	0.3
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.18	0.24
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.17	0.23	
MW209	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.02	0.19	0.31	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.22	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.22	0.02	0.44	0.64	
	6/05/2019	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0312	<0.002	<0.0005	<0.0005	<0.0005	0.004	0.0029	0.0193	0.075	0.0019	0.0062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0637	0.0022	0.14	0.213		
MW210	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.22	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07	
	6/05/2019	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.137	<0.002	<0.0020	<0.0020	<0.0020	0.0244	0.0326	0.282	1.31	0.023	0.101	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.52	0.034	1.83	2.46		
MW211	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07		
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.15	0.18	
	3/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0405	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0405	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0439	<0.0005	0.08	0.136			
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0358	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0043	0.0027	0.068	<0.0005	0.0045	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0987	0.0017	0.17	0.217				
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.0																																	

Table T2: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW239	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.01	0.06	0.07	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0064	<0.001	<0.0005	<0.001	0.0346	<0.002	0.0022	<0.0005	<0.0005	0.0084	0.0026	0.0394	0.137	0.0033	0.0139	<0.0005	<0.0005	<0.0005	0.0029	0.285	0.0183	0.422	0.554	
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0299	0.004	0.0009	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0749	<0.0005	0.0143	<0.0005	<0.0005	<0.0005	0.0032	0.0234	0.0141	0.0983	0.167	
	8/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.05	<0.1	<0.02	-	-	-	<0.02	0.02	0.1	-	<0.02	-	-	-	<0.02	0.04	0.02	0.14	0.23	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.01	0.01
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.05	<0.01	0.08	0.1	
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	0.01	<0.01	0.02	0.02		
MW240	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.09	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0034	<0.001	<0.0005	<0.001	0.0222	0.006	<0.0005	<0.0005	<0.0005	0.0066	0.0119	0.0332	0.091	0.012	0.0092	<0.0005	<0.0005	<0.0005	0.0019	0.267	0.0203	0.358	0.485	
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0098	0.003	<0.0005	<0.0005	<0.0005	0.0066	0.0114	<0.0005	0.02	0.0023	0.0018	<0.0005	<0.0005	<0.0005	0.0012	0.0397	0.003	0.06	0.06	
	8/05/2019	-	-	-	-	-	-	-	-	-	-	-	<0.02	<0.1	-	-	-	-	<0.02	-	0.0214	<0.02	<0.02	-	-	-	<0.02	0.04	<0.01	0.0611	0.0836	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.05	<0.02	<0.02	0.05	<0.01	0.08	0.11		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.04
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<0.05	<0.02	<0.02	0.19	<0.01	0.23	0.28	
11/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	0.14	<0.02	<0.05	<0.02	<0.02	0.07	<0.01	0.09	0.27		
MW252	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.02	0.02	0.02	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0042	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0051	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0063	<0.0005	0.0114	0.0156	
	3/12/2018	<0.001	0.012	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0041	<0.0005	0.0075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0469	<0.0005	0.0544	0.0758	
	6/05/2019	<0.001	0.02	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0079	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0358	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0027	<0.0005	0.0385	0.0676	
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0046	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	0.035	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0151	<0.0005	0.0501	0.0569	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03	
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW253	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0023	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0055	0.0078	
	3/12/2018	<0.001	0.009	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0064	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	<0.0005	<0.0005	<0.0005	<0.0005							

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
On-Base - Bohle River/Louisa Creek/Town Common Catchment								
SW013	17/07/2017	8.88	29.95	218.4	3236	7.05	Not recorded on field notes	
	19/12/2018	0.62	34.5	322	1447	7.21	Clear/yellow, low turbidity, anoxic odour	
	30/04/2019	11.10	25.9	227.5	921	9.13	Clear/brown, low turbidity, organic odour	
	29/04/2020	4.32	31.8	217.3	3695	7.48	Greenish Black, No Odour, Biosheen Appearance	
	22/04/2021	2.49	25.7	326.4	3388	6.66	Low turbidity, Pale yellow, No odour, No sheen	
	22/04/2022	1.57	23.1	328.8	457.7	7.37	Clear turbidity, Pale yellow, No odour, No sheen, Standing water body in vegetated area, approx. 15 cm deep, 40 cm wide. Grass underneath puddle.	
	7/10/2022	-	-	-	-	-	Insufficient water for water quality parameters	
	20/04/2023	6.23	29.8	260.9	2260	6.77	Low turbidity, Light Olive Brown, No Odour, No sheen	
	17/07/2017	3.94	22.8	357.4	2951	7.49	Cl, brown, low turbidity	
	19/04/2018	2.49	26.7	210.8	2092	6.36		
SW014	12/12/2018	2.62	28.5	363.3	402	6.94	Brown, moderate turbidity, no odour	
	3/05/2019	9.62	25.4	201.1	1848	8.80	Clear, low turbidity, organic odour	
	24/10/2019	6.04	25	331.8	3319	7.78	Clear, low turbidity, organic odour.	
	28/04/2020	3.73	26.2	210.6	1588	7.45	Yellowish Brown, Slight Organic Odour, No Sheen	
	24/09/2020	6.39	26.1	284.4	3193	7.16	Light Olive Brown, Slight Organic Odour, No sheen	
	27/12/2020	3.21	27.6	325.3	1149	7.23	Pale yellow, No odour, No sheen. Bio scum and algae present	
	28/12/2020	3.90	28.1	290.6	369.5	7.15	Brown, No odour, Slight sheen.	
	29/12/2020	3.40	27.2	281.3	166.6	7.07	Yellow, No odour, No sheen.	
	30/12/2020	3.30	27.4	297.4	162.8	6.82	Yellowish Brown, No odour, No sheen.	
	31/12/2020	3.39	27.4	289.1	206.6	6.79	Yellowish Brown, No odour, No sheen.	
	9/02/2021	2.48	28.1	312.2	205.3	6.76	Brown, No odour, No sheen.	
	10/02/2021	-	29.1	287.7	385.4	7.16	Light olive brown, No odour, No sheen.	
	11/02/2021	2.40	27.2	147.4	428.1	6.83	Light olive brown, No odour, Biosheen Appearance.	
	12/02/2021	3.01	27.5	291.1	377.8	7.34	Pale yellow, Slight Organic Odour, No sheen.	
	13/02/2021	2.08	27.8	230.1	518	7.17	Pale yellow, Slight Organic Odour, Biosheen Appearance.	
	22/04/2021	4.73	24.5	317.1	201.6	7.71	Low turbidity, Pale yellow, No odour, Biosheen Appearance	
	7/10/2021	1.95	24.7	68.2	5788	7.16	Low turbidity, Pale yellow, Sulfurous odour, No sheen	
	26/01/2022	3.22	26.6	354.7	148.8	7.19	Clear, No odour, No sheen.	
	27/01/2022	4.69	27.2	340.1	129.9	6.79	Clear, No odour, No sheen.	
	28/01/2022	2.85	27.6	353.3	257.1	6.71	Olive yellow, No odour, No sheen.	
	29/01/2022	2.63	27.8	341.1	332.5	6.78	Pale yellow, No odour, No sheen.	
	30/01/2022	2.28	27.9	311.1	469.0	7.05	Brown, No odour, No sheen.	
	13/04/2022	1.72	27.1	251.3	3691	8.55	Low turbidity, Pale yellow, No odour, No sheen, Still water, 2 m wide earthen creek under bridge	
	7/10/2022	-	-	-	-	-	Insufficient water for water quality parameters	
	17/04/2023	4.66	26.2	320.6	4.7	6.81	Low turbidity, No odour, No sheen	
	18/04/2023	2.29	26.3	265.5	308.3	7.04	Low turbidity, No odour, No sheen	
	19/04/2023	2.65	27.4	289.1	409.9	6.98	Clear turbidity, Light Olive Brown, No odour, No sheen	
	20/04/2023	2.05	27.8	292.6	514	6.78	Clear turbidity, No odour, No sheen	
	21/04/2023	2.19	26.7	276.3	618	6.71	Low turbidity, No odour, No sheen	
	SW016	14/08/2017	6.96	25.44	395.2	2667	7.04	Clear, low turbidity, no odour
11/04/2018		2.48	24.6	179.7	679	6.33	Clear, algae, reeds.	
17/12/2018		2.34	31.1	255.5	248.1	6.90	Clear/cloudy brown, organic odour	
29/04/2019		3.17	25.6	349.7	909	6.90	Clear, low turbidity, organic odour	
29/04/2020		6.76	28.6	222.8	3862	8.04	Very Dark Greenish Grey, No Odour, Biosheen Appearance	
6/09/2020		6.03	26.9	79	9405	7.09	Light Olive Brown, No odour, Biosheen Appearance	
27/12/2020		5.23	30.9	290	800	6.95	Brown, No odour, No sheen.	
28/12/2020		6.62	30.2	326	356.3	6.81	Brown, No odour, No sheen.	
29/12/2020		4.89	32.9	254.9	733	6.15	Brown, No odour, No sheen.	
30/12/2020		2.21	28.9	260.4	956	6.10	Reddish Yellow, No odour, No sheen.	
9/02/2021		8.93	31.7	311.7	385.8	8.53	Yellowish brown, No odour, No sheen. Biota in sample (small water insects)	
10/02/2021		2.76	28.4	278	1052	6.93	Yellowish brown, No odour, No sheen.	
12/02/2021		8.00	25.9	366	339.1	7.32	Dark reddish brown, No odour, No sheen.	
13/02/2021		5.45	31.4	299.5	374.1	7.22	Brown, No odour, No sheen.	
22/04/2021		12.04	25.9	265.3	737	9.27	Low turbidity, Pale yellow, Distinct organic odour, Biosheen Appearance	
7/10/2021		9.82	32.1	214.6	17654	8.21	Medium turbidity, Yellow, No odour, No sheen	
26/01/2022		6.62	26.7	271.9	439.1	6.98	Brown, No odour, No sheen.	
27/01/2022		-	-	-	-	-	Access unavailable due to flooding - Sample not collected on this day	
28/01/2022		3.85	27.3	295.7	82.4	6.65	Dark reddish brown, No odour, No sheen.	
29/01/2022		4.39	29.5	282.2	154.3	6.53	Pale yellow, No odour, No sheen, Moderate flow	
30/01/2022		5.00	31.0	254.1	181.4	6.68	Brown, No odour, No sheen.	
13/04/2022		6.60	27.9	260.4	2306	8.97	Medium turbidity, Pale yellow, No odour, No sheen.	
17/10/2022		0.70	23.0	355	1518	7.62	Low turbidity, Clear, Slight bio-sheen on water.	
17/04/2023		2.19	29	186.3	8.3	5.86	Low turbidity, Light Olive Brown, Organic odour, Biosheen appearance	
18/04/2023		1.72	28.9	109.1	1119	6.20	Turbid, Dark Reddish Brown, Organic odour, Biosheen appearance	
19/04/2023		1.33	32.2	58	2728	6.34	Turbid, Dark Reddish Brown, Organic odour, Biosheen appearance	
20/04/2023		2.89	30.8	69.9	2602	6.25	Medium turbidity, Light Olive Brown, Organic odour, Biosheen appearance	
21/04/2023		1.40	32.8	47.2	2240	6.17	Turbid, Dark Brown, Organic odour, No sheen	
SW019		14/08/2017	3.52	28.41	389.8	1209	7.98	Clear, brown, no odour, low turbidity
		19/04/2018	9.69	25.2	247	3135	8.91	Low turbidity, clear, algae
	19/12/2018	9.62	37.2	304.9	282.6	8.99	Clear, no odour, low turbidity	
	1/05/2019	11.80	29.5	242.7	737	8.54	Clear, low turbidity, organic odour	
	30/04/2020	4.31	25.4	236.5	618	7.92	Pale Yellow, No Odour, No Sheen	
	22/04/2021	4.22	24.9	319.4	218.2	7.02	Clear, Pale yellow, No odour, No sheen	
	10/04/2022	6.66	28.2	245.2	186.8	7.02	Low turbidity, Pale yellow, No odour, No sheen.	
	17/10/2022	-	-	-	-	-	Water volume insufficient. Not sampled.	
	21/04/2023	-	-	-	-	-	Insufficient water for sampling	
	SW112	17/07/2017	5.74	26.6	303.2	1362	8.35	Cl, brown, low turbidity
19/04/2018		5.65	28.6	215.9	1420	6.38		
20/12/2018		5.32	31.9	291	2793	8.07	Brown, low turbidity, organic odour	
3/05/2019		5.17	29.6	248	1959	8.17	Clear, low turbidity, organic odour	
25/10/2019		4.75	28.1	269.1	862	7.55	Clear, low turbidity, no odour.	
27/04/2020		7.23	28.8	177.5	3469	7.83	Light Olive Brown, No Odour, No Sheen	
9/09/2020		26.80	26.9	103.3	4240	7.23	Pale yellow, No odour, No sheen	
27/12/2020		7.20	29.9	333.4	1535	7.52	Yellow, No odour, No sheen.	
28/12/2020		7.22	30.9	295.3	1678	7.70	Brown, No odour, No sheen.	
29/12/2020		7.32	29.6	278.6	1362	7.17	Pale Yellow, No odour, No sheen.	
30/12/2020		7.26	30.2	310.4	1178	6.83	Yellowish Brown, No odour, No sheen.	
31/12/2020		7.42	28.1	312.3	1119	6.85	Pale Yellow, No odour, No sheen.	
9/02/2021		7.83	31.3	296.1	1165	8.43	Light olive brown, No odour, No sheen.	
10/02/2021		7.11	31.1	274.1	992	7.52	Light olive brown, No odour, No sheen.	
11/02/2021		7.40	30	296.8	1051	7.66	Pale yellow, No odour, No sheen.	
12/02/2021		8.10	29.8	280.2	1084	7.66	Pale yellow, No odour, No sheen.	
13/02/2021		7.35	29.9	326.8	1095	7.59	Yellowish brown, Slight Organic Odour, No sheen.	
16/04/2021		6.96	29.5	293.3	1697	7.47	Clear, Pale brown, Weak sulfurous odour, No sheen	
7/10/2021		7.24	32	246.4	2195	7.75	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		7.35	28.0	404.1	595.0	7.26	Clear, No odour, No sheen.	
27/01/2022		6.93	29.5	375.3	865.0	6.91	Clear, No odour, No sheen, Moderate flow	
28/01/2022		6.70	27.5	351.4	175.3	6.93	Olive yellow, No odour, No sheen.	
29/01/2022		7.64	28.7	365.7	947.0	7.23	Pale yellow, No odour, No sheen, Moderate flow	
30/01/2022		7.17	28.9	326.5	761.0	7.21	Brown, No odour, No sheen.	
12/04/2022		5.31	31.7	326.3	1410	6.86	Medium turbidity, Pale yellow, No odour, No sheen, Stagnant 5 m wide earthen creek	
7/10/2022		4.67	26.5	360.9	1066	7.38	Clear turbidity, Clear, Still water	
17/04/2023		7.33	29.7	350.7	947	6.98	Clear turbidity, No odour, No sheen	
18/04/2023		7.18	29.2	271.5	916	7.20	Clear turbidity, No odour, No sheen	
19/04/2023		7.18	31.2	252	998	7.26	Clear turbidity, No odour, No sheen	
20/04/2023		7.21	30.6	286.2	1128	7.29	Clear turbidity, No odour, No sheen	
21/04/2023	7.29	30.7	269.2	1166	7.27	Clear turbidity, No odour, No sheen		
SW123	14/08/2017	7.37	25.99	392.2	1385	7.99	Clear, low turbidity, no odour	
	18/04/2018	6.46	30.2	199	1103	7.96	Low turbidity, clear, algae	
	17/12/2018	4.96	32.1	297	289	8.35	Clear, low turbidity, no odour	
	1/05/2019	4.81	27.2	266.7	1314	7.88	Clear, low turbidity, organic odour	
	18/10/2019	6.35	29.5	261.9	877	7.40	Clear brown, low turbidity, organic odour.	
	29/04/2020	1.81	25.9	230.2	1811	7.29	Dark Olive Brown, No Sheen	
	10/09/2020	6.02	23.6	339.2	988	7.06	Pale yellow, No odour, No sheen	
	27/12/2020	5.65	29	328.6	194.3	6.89	No odour, Biosheen.	
	28/12/2020	6.70	30.1	273.4	273.8	7.19	Brown, No odour, Slight sheen.	
	29/12/2020	6.11	30.1	281.1	94.4	7.00	Brown, No odour, No sheen.	
	30/12/2020	5.90	28.1	264.7	34.3	6.56	Yellowish Brown, No odour, No sheen.	
	31/12/2020	6.70	28.8	288.5	81.2	6.99	Pale Yellow, No odour, No sheen.	
	9/02/2021	6.91	31.4	329.8	398.9	7.20	Yellowish brown, No odour, No sheen.	
	10/02/2021	5.98	30.4	263.8	325.6	7.66	Light olive brown, No odour, No sheen.	
	11/02/2021	7.77	28.2	315.6	130.5	7.57	Yellowish brown, No odour, No sheen.	
	12/02/2021	5.57	27	262	173.3	7.30	Pale yellow, No odour, No sheen.	
	13/02/2021	8.81	32.9	270.4	392.4	7.74	Light olive brown, No odour, No sheen.	
	22/04/2021	2.23	25.9	327.3	391.1	6.70	Low turbidity, Pale yellow, Distinct organic odour, No sheen	
	7/10/2021	5.59	33	215.4	1245	7.62	Low turbidity, Pale yellow, No odour, No sheen	
	26/01/2022	6.64	27.5	342.3	49.7	6.91	Clear, No odour, No sheen.	
	27/01/2022	6.24	29.3	349.6	55.1	6.48	Clear, No odour, No sheen.	
	28/01/2022	5.23	28.0	336.9	252.0	6.62	Clear, No odour, No sheen.	
	29/01/2022	6.12	31.2	298.3	189.2	6.79	Pale yellow, No odour, No sheen, No flow	
	30/01/2022	5.09	31.7	288.4	353.7	6.75	Brown, No odour, No sheen.	
	10/04/2022	5.42	27.4	289.4	514	6.98	Low turbidity, Pale yellow, No odour, No sheen.	
	17/10/2022	1.56	28.0	392.3	625	6.77	Low turbidity, Yellowish Brown, Still water	

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment	
SW125	14/08/2017	4.98	22.98	372	2153	7.33	Clear, low turbidity, no odour, sampled @ drain outlet	
	11/04/2018	3.55	30.3	198.6	2526	7.54	Low turbidity, clear, algae	
	17/12/2018	3.78	29.1	312	201.5	7.82	Clear to slightly cloudy, low to moderate turbidity, no odour	
	1/05/2019	2.14	24.5	427.1	3600	5.93	Clear, low turbidity, organic odour	
	15/10/2019	2.70	29.5	369.7	7866	7.03	Clear/brown, moderate turbidity, organic odour.	
	27/04/2020	13.62	25.8	195.1	4174	10.08	Greenish Black, No Odour, No Sheen	
	7/09/2020	4.84	32.7	52	5491	7.19	Dark Brown, Putrefied, Biosheen Appearance	
	27/12/2020	3.49	31.8	551.8	12792	3.61	Pale yellow, No odour, No sheen.	
	28/12/2020	8.63	33.9	319.1	6437	6.99	Brown, No odour, No sheen.	
	29/12/2020	8.22	36.3	318.4	2016	6.50	Yellowish Brown, No odour, No sheen.	
	30/12/2020	5.69	30.2	300.9	821	6.23	Yellowish Brown, No odour, No sheen.	
	31/12/2020	3.94	28.1	295.4	336.7	6.32	Yellowish Brown, No odour, No sheen.	
	9/02/2021	3.86	29.7	349.9	1644	6.53	Light olive brown, No odour, No sheen.	
	10/02/2021	6.57	30.9	278.8	1450	7.07	Light olive brown, No odour, No sheen.	
	11/02/2021	8.60	28.8	316.8	371.3	7.39	Yellow, No odour, No sheen.	
	12/02/2021	7.10	26.6	260.3	540	7.09	Yellowish brown, Slight Organic Odour, Biosheen Appearance.	
	13/02/2021	10.63	32.6	248.6	1190	7.82	Yellowish brown, Slight Organic Odour, No sheen.	
	22/04/2021	5.80	25.4	344.1	2671	7.22	Low turbidity, Pale yellow, No odour, No sheen	
	26/01/2022	6.91	26.2	356.9	266.0	7.61	Clear, No odour, No sheen.	
	27/01/2022	6.44	29.9	346.4	106.6	6.42	Clear, No odour, No sheen.	
	28/01/2022	5.09	27.2	326.2	133.5	6.63	Light olive brown, No odour, No sheen.	
	29/01/2022	7.04	29.9	337.2	249.0	6.94	Pale yellow, No odour, No sheen.	
	30/01/2022	5.75	31.5	306.8	531.0	7.22	Yellowish brown, No odour, No sheen.	
	13/04/2022	5.08	31	288.3	6746	8.75	Low turbidity, Yellow, No odour, No sheen, Still water body approx. 5 m wide	
	17/10/2022						Insufficient water for water quality parameters	
	17/04/2023	7.05	27.5	320.3	6.7	6.70	Low turbidity, Light Olive Brown, No odour, No sheen	
	18/04/2023	11.42	29.3	276.9	708	8.61	Clear turbidity, Organic odour, No sheen	
	19/04/2023	12.53	36	231.4	1258	9.38	Clear turbidity, Light Olive Brown, No odour, No sheen	
	20/04/2023	10.15	30.4	301.9	1078	7.51	Low turbidity, No odour, No sheen	
	21/04/2023	10.58	33.6	286.7	2393	7.93	Low turbidity, Light Olive Brown, No odour, No sheen	
SW126	14/08/2017	7.34	24.43	382.7	1316	7.89	Clear, low turbidity, no odour	
	17/04/2018	0.55	30	210.3	738	7.94		
	17/12/2018	3.25	32.1	327.3	2236	7.83	Clear/cloudy, no odour	
	2/05/2019	3.94	27.2	223	1014	8.28	Clear, low turbidity, organic odour	
	17/10/2019	6.68	29.6	279.1	449.7	9.40	Clear, low turbidity, no odour.	
	29/04/2020	3.88	30.5	186.4	1526	8.37	Light Olive Brown, No Odour, No Sheen	
	9/09/2020	8.88	26.2	134.1	934	7.91	Pale yellow, No odour, No sheen	
	22/04/2021	3.37	25.1	383	2202	6.75	Low turbidity, Pale yellow, No odour, No sheen	
	7/10/2021	11.58	30.8	204.2	883	9.14	Clear, Clear, No odour, No sheen	
	10/04/2022	7.78	29.1	307.7	598	7.63	Medium turbidity, Pale yellow, No odour, No sheen, Lake fringed by reeds, no flow.	
	19/10/2022	6.22	28.2	288.3	776	7.99	Clear, Stagnant, still flow. Lies on water's surface. Long grass around water's edge.	
	20/04/2023	10.49	29.9	249.8	2813	7.51	Clear turbidity, No odour, No sheen	
	SW131	11/04/2018	1.69	24.3	68.5	777	6.36	
		19/12/2018	2.31	33.7	261.5	2040	8.31	No comments recorded
29/04/2019		0.39	25.6	204.2	759	6.48	Clear, low turbidity, organic odour & organic sheen	
18/10/2019		5.00	28.2	308	3627	6.53	Clear brown, moderate turbidity, organic odour.	
29/04/2020		2.95	31.5	194.4	1937	6.71	Yellowish Brown, No Odour, No Sheen	
9/09/2020		9.74	30.1	70	4267	6.88	Dark Reddish Brown, No odour, No sheen	
27/12/2020		12.90	28.6	379.2	4679	6.52	Brown, No odour, Biosheen.	
28/12/2020		9.92	30.1	278.9	3432	6.05	Pale Yellow, No odour, Slight sheen.	
29/12/2020		2.88	28.5	216.2	1151	5.45	Brown, No odour, No sheen.	
30/12/2020		2.08	27.6	143.6	711	6.00	Reddish Yellow, Sulfurous Organic Odour, No sheen.	
31/12/2020		4.10	28	294.1	692	6.18	Pale Yellow, No odour, No sheen.	
9/02/2021		2.52	28.2	91.9	789	6.59	Olive yellow, Distinct sulfurous odour, Biosheen Appearance.	
10/02/2021		2.33	26.8	68.6	1306	6.78	Yellowish brown, Strong sulfurous odour, No sheen.	
11/02/2021		2.93	27.4	134.4	893	6.85	Dark reddish brown, Strong sulfurous odour, Biosheen Appearance.	
12/02/2021		3.84	26.1	158	902	6.82	Light olive brown, Very strong sulfurous odour, Biosheen Appearance.	
13/02/2021		2.31	29.3	141	866	6.82	Dark reddish brown, Very strong sulfurous odour, No sheen.	
16/04/2021		0.57	25.6	152.5	1027	6.47	Clear, Pale yellow, No odour, No sheen	
7/10/2021		7.40	30.8	270.5	3618	7.11	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		2.85	25.4	152.8	910.0	6.53	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen.	
27/01/2022		2.74	27.9	179.2	662.0	6.53	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen.	
28/01/2022		5.24	27.1	208.9	90.4	6.64	Dark reddish brown, Rotten egg smell (sulfurous) (Very strong), No sheen, Foam on surface of water, could be biofoam or PFAS foam.	
29/01/2022		4.00	28.0	101	170.9	6.31	Yellow, Rotten egg smell (sulfurous) (Strong), No sheen, Strong flow	
30/01/2022		4.01	28.9	91	237.6	6.71	Brown, Rotten egg smell (sulfurous) (Distinct), No sheen, Strong flow	
10/04/2022		2.33	25.5	229.5	1449	7.11	Low turbidity, Pale yellow, Sulfurous odour, Biosheen, Drain to standing water, no flow, reeds at bank and throughout water body.	
19/10/2022	2.57	26.5	304.8	1230	7.51	Low turbidity, Yellow, organic odour, Stagnant, still flow. Algae on water's surface. Long grass around water's edge.		
17/04/2023	7.95	26.1	223	1	6.08	Low turbidity, Light Olive Brown, Slight organic odour, No sheen		
18/04/2023	2.60	26.1	121.7	1086	6.51	Low turbidity, Light Olive Brown, No odour, No sheen		
19/04/2023	1.86	27.6	87.1	999	6.75	Clear turbidity, Light Olive Brown, No odour, No sheen		
20/04/2023	2.12	27.9	72.6	1156	6.90	Clear turbidity, Light Olive Brown, Slight organic odour, No sheen		
21/04/2023	1.72	30.6	84.1	1166	6.64	Low turbidity, Dark Brown, Organic odour, No sheen		
On-Base - Mundy Creek Catchment								
SW001	14/08/2017	17.02	32.89	382.4	4602	10.08	Clear, algae in the channel drain, low turbidity	
	19/04/2018	9.96	27.9	236.3	3147	9.08	clear, low turbidity, algae	
	18/12/2018	9.63	34.3	320	2153	8.84	Clear, no odour, some algae	
	2/05/2019	10.26	29.7	254.9	989	9.29	Clear, low turbidity, no odour	
	14/10/2019	4.93	29	352.1	506	9.01	Clear, low turbidity, no odour.	
	28/04/2020	9.35	29	200.6	2652	8.14	Clear, No Odour, Biosheen Appearance	
	23/09/2020	10.82	26.5	315.4	1731	8.12	Olive Yellow, Organic Odour, No sheen	
	22/04/2021	4.61	25.5	296.6	756	7.63	Clear, Pale yellow, No odour, No sheen	
	7/10/2021	13.13	33.4	225.4	2018	8.82	Low turbidity, Pale yellow, No odour, No Sheen	
	13/04/2022	7.83	29.8	245.1	1863	9.50	Medium turbidity, Pale yellow, No odour, No sheen, Windy, water moving in 0.5 m wide channel in concrete culvert.	
	17/10/2022						Stagnant water. Insufficient volume for sampling	
	20/04/2023	8.77	31	306.7	4196	7.73	Clear turbidity, No odour, No sheen	
	SW010	14/08/2017	11.17	29.76	429.8	910	7.76	Yellow, Clear, organic matter in bed of drain channel, low turbidity
		11/04/2018	4.05	32.4	213	1915	8.19	Low turbidity, clear, algae
14/12/2018		2.43	28.3	303	1203	7.52	Clear, low flow.	
2/05/2019		9.89	32.2	257.9	1063	8.55	Clear, low turbidity, organic odour	
28/04/2020		13.77	26.7	262.3	869	8.00	Light Olive Brown, No Odour, Biosheen Appearance	
23/09/2020		5.58	25.2	284.7	1766	6.21	Reddish Yellow, Organic Odour, Biosheen Appearance	
27/12/2020		1.84	27.3	367.7	360.3	6.66	Pale yellow, No odour, No sheen. Cane toad eggs in drain	
28/12/2020		2.98	28.1	282.1	247.6	6.70	Brown, No odour, No sheen.	
29/12/2020		2.48	28.1	301.6	166.1	6.21	Pale Yellow, Organic Odour, No sheen.	
30/12/2020		6.58	28.9	314.2	104.9	6.64	Yellowish Brown, No odour, No sheen.	
31/12/2020		4.15	27.8	307.1	275.9	6.65	Yellowish Brown, No odour, No sheen.	
9/02/2021		2.04	28.8	170.1	431.4	7.05	Yellowish brown, No odour, No sheen.	
10/02/2021		3.44	29.9	218.8	389.7	7.35	Yellowish brown, No odour, No sheen.	
11/02/2021		4.94	27.8	311.9	505	7.18	Brown, No odour, No sheen.	
12/02/2021		5.29	27.3	266.5	467.5	7.22	Yellowish brown, No odour, No sheen.	
13/02/2021		3.39	28.9	178.1	541	7.62	Pale yellow, Weak sulfurous odour, No sheen.	
22/04/2021		6.28	-	310.8	3553	7.76	Low turbidity, Pale yellow, Distinct putrefied odour, No sheen	
7/10/2021		14.57	33.7	175.4	466.3	9.51	Low turbidity, Pale yellow, No odour, No Sheen	
26/01/2022		7.37	28.2	359.3	47.9	7.43	Brown, No odour, No sheen, Cane toads in drain	
27/01/2022		4.70	29.9	317.7	429.4	7.11	Clear, No odour, No sheen.	
28/01/2022		4.04	27.2	329.4	374.3	7.66	Clear, No odour, No sheen.	
29/01/2022		3.73	30.6	295.1	509.0	7.03	Pale yellow, No odour, No sheen, No flow	
30/01/2022		3.29	30.8	296.7	705.0	6.94	Clear, No odour, No sheen.	
13/04/2022		10.82	30	265.4	1546	8.74	Low turbidity, Yellow, No odour, No sheen, Still water in 2 m wide concrete culvert	
17/10/2022	1.57	29.7	219.9	5187	7.70	Low turbidity, Yellow, Still, vegetation growing in water body.		
17/04/2023	6.47	28.5	315.4	214.9	7.03	Clear turbidity, No odour, No sheen		
18/04/2023	6.02	27.9	283.1	768	7.21	Clear turbidity, Slight organic odour, No sheen		
19/04/2023	5.11	30.7	252.5	1202	7.41	Clear turbidity, No odour, No sheen		
20/04/2023	2.97	29.4	266.2	1580	7.35	Low turbidity, Light Olive Brown, No odour, No sheen		
21/04/2023	3.01	29.7	275.3	1995	7.37	Clear turbidity, No odour, No sheen		
SW106	16/08/2017	16.34	23.96	181.6	2773	8.28		
	25/04/2020	12.55	32.6	196	69999	8.72	Greenish Black, Putrefied, No Sheen	
	23/09/2020	11.06	34.1	283.3	88857	7.79	Black, Organic Odour, Biosheen Appearance	
	13/04/2022	5.68	33.3	313.8	96823	6.88	Medium turbidity, Pale yellow, No odour, No sheen, Still water	
	17/10/2022	2.92	36.0	377.6	-	6.64	Still water	
	SW121	18/12/2018	1.60	33.7	282.6	1137	7.49	Brown, organic matter, no odour
		27/12/2020	7.17	30.4	332.5	233.7	7.01	Yellowish Red, No odour, No sheen.
28/12/2020		6.65	29.9	302.8	164.5	6.74	Yellowish Red, No odour, No sheen.	
29/12/2020		7.68	32.1	315	384.6	6.29	Yellowish Brown, No odour, Biosheen.	
30/12/2020		5.45	30.3	361.4	426.2	6.18	Yellow, No odour, Biosheen.	
31/12/2020		5.03	28.4	343.7	291.8	6.41	Yellowish Brown, No odour, No sheen.	
9/02/2021		2.44	30.7	296.4	338.8	6.86	Light olive brown, No odour, No sheen.	
10/02/2021		5.07	33	283.4	334.6	7.17	Light olive brown, No odour, No sheen.	
11/02/2021		5.27	28.4	317.3	88	6.94	Yellow, No odour, No sheen.	
12/02/2021		6.83	29.6	253.8	114.5	7.22	Pale yellow, No odour, No sheen.	
13/02/2021		11.47	31	316.8	446.9	7.22	Pale yellow, No odour, Biosheen Appearance.	
22/04/2021		5.17	24.5	303.2	117.5	7.29	Low turbidity, Pale yellow, No odour, No sheen	
26/01/2022		7.06	27.3	378.9	55.0	6.93	Brown, No odour, No sheen.	
27/01/2022		2.00	32.4	319.2	225.5	6.58	Brown, No odour, No sheen.	
28/01/2022		3.89	27.9	297	269.7	6.75	Clear, No odour, No sheen.	
29/01/2022		2.30	31.8	117.1	485.8	6.92	Pale yellow, No odour, Slight sheen.	
30/01/2022		4.16	34.0	308.9	687.0	7.21	Brown, No odour, Biosheen appearance, Biosheen present one metre downstream from sample	
10/04/2022		2.39	28.2	244.8	383.8	7.58	Low turbidity, Light olive brown, No odour, No sheen.	
17/10/2022							Dry. Not sampled.	
18/04/2023	2.78	26.2	188.3	712	6.61	Clear turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		
19/04/2023	2.50	30	186.2	1092	6.39	Medium turbidity, Light Olive Brown, No odour		
20/04/2023	5.33	28.5	223.4	285.3	7.04	Medium turbidity, Light Olive Brown, No odour, Biosheen appearance		
21/04/2023	2.93	30	237.9	963	6.37	Medium turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		
22/04/2023	2.40	26.5	109.7	1008	6.35	Medium turbidity, Light Olive Brown, Slight organic odour, Biosheen appearance		

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment
SW132	11/04/2018	10.50	32.2	192	3300	9.72	Low turbidity, clear, algae, invert
	17/12/2018	10.86	34.3	1251	1273	8.50	clear, low turbidity, no odour
	14/10/2019	3.04	26.8	357.9	971	8.70	Clear, low turbidity, no odour.
	28/04/2020	16.51	26.9	222.3	2285	8.94	Clear, No Odour, No Sheen
	23/09/2020	7.90	27.5	290	1861	9.24	Pale yellow, No odour, No sheen
	27/12/2020	11.30	30.1	322.9	1427	9.45	No odour, No sheen.
	28/12/2020	10.82	32.2	345.6	847	8.62	Brown, No odour, No sheen.
	29/12/2020	11.25	34.7	330.2	1106	8.00	Pale Yellow, No odour, No sheen.
	30/12/2020	7.41	29.3	278.8	168.5	7.13	Yellowish Brown, No odour, No sheen.
	31/12/2020	10.01	28.5	354.6	358.2	7.74	Pale Yellow, No odour, No sheen.
	9/02/2021	10.72	29.6	248.7	1084	8.20	Pale yellow, No odour, No sheen.
	10/02/2021	10.44	32.1	252.2	817	9.17	Light olive brown, No odour, No sheen.
	11/02/2021	8.13	28.6	302	424.8	8.00	Yellowish brown, No odour, No sheen.
	12/02/2021	9.00	28.2	268.2	380.3	7.79	Pale yellow, No odour, No sheen.
	13/02/2021	13.93	35.4	249.6	1869	9.18	Pale yellow, No odour, No sheen.
	22/04/2021	7.77	24.7	291.2	764	8.68	Clear, Pale yellow, No odour, No sheen
	7/10/2021	11.84	29.5	215.3	1885	8.72	Low turbidity, Pale yellow, No odour, No sheen
	26/01/2022	7.55	27.9	378.8	88.7	6.87	Brown, No odour, No sheen, Strong flow
	27/01/2022	9.31	30.4	308.7	1087.0	7.80	Brown, No odour, No sheen,
	28/01/2022	10.13	28.3	308.6	916.0	7.70	Clear, No odour, No sheen,
	29/01/2022	11.53	32.3	287.9	1131.0	8.25	Pale yellow, No odour, No sheen, No flow
30/01/2022	12.90	34.8	257.7	2077.0	8.94	Clear, No odour, No sheen.	
13/04/2022	8.63	27.9	259.8	2578	9.53	Medium turbidity, Pale yellow, No odour, No sheen, Windy, water 1 m wide in concrete culvert	
17/10/2022				Dry, Not sampled			Dry
17/04/2023	8.81	28.8	288.7	337.8	7.95	Clear turbidity, No odour, No sheen	
18/04/2023	14.42	28.3	260.2	1607	8.79	Clear turbidity, No odour, No sheen	
19/04/2023	13.34	33	227.8	2550	8.89	Clear turbidity, No odour, No sheen	
20/04/2023	13.75	33.1	262.9	3051	8.92	Medium turbidity, No odour, No sheen	
21/04/2023	14.50	31.6	243.3	3404	8.97	Low turbidity, No odour, No sheen	
On-Base - Three Mile Creek Catchment							
SW102	16/04/2018	0.82	28.1	99.2	1796	6.21	moderate turbidity, brown, organic matter
	17/12/2018	3.04	34.2	266	308	7.38	Clear, organic matter
	10/05/2019	2.03	23	235.7	5425	7.17	Clear, low turbidity, organic odour
	17/10/2019	0.19	29.9	224.1	11544	7.39	Clear/ brown, moderate turbidity, organic odour, organic matter.
	29/04/2020	9.47	26.2	214.5	7257	8.30	Pale Yellow, No Odour, Biosheen Appearance
	9/09/2020	3.36	33.6	32.1	70837	7.20	Yellowish Brown, Compost, Biosheen Appearance
	27/12/2020	4.96	29.4	328	304.9	6.41	Brown, No odour, No sheen. Dead toad in drain
	28/12/2020	4.84	29.6	296.2	379.1	6.98	Brown, No odour, No sheen.
	29/12/2020	4.76	31.4	272.2	229.3	6.23	Brown, No odour, No sheen.
	30/12/2020	4.47	29.9	287.3	310.8	6.49	Yellowish Brown, No odour, No sheen.
	31/12/2020	4.71	27	284.7	153.2	6.38	Yellowish Brown, No odour, No sheen.
	9/02/2021	4.94	30.8	341.5	729	7.18	Light olive brown, No odour, No sheen.
	10/02/2021	3.26	27.8	246.3	727	6.65	Dark olive brown, Weak sulfurous odour, No sheen.
	11/02/2021	6.54	27.6	256.9	1066	7.10	Yellowish red, Slight Organic Odour, No sheen. Pump on
	12/02/2021	2.72	25.4	239.4	1198	6.86	Yellowish red, No odour, Biosheen Appearance. Pump on
	13/02/2021	3.70	30	239.1	2350	6.96	Yellowish brown, Slight Organic Odour, Biosheen Appearance.
	22/04/2021	2.64	25.9	331.1	4850	6.81	Low turbidity, Pale yellow, No odour, Biosheen Appearance
	7/10/2021	1.63	26.4	95.4	18914	7.13	Low turbidity, Pale yellow, No odour, Biosheen Appearance
	26/01/2022	6.93	26.9	319.1	123.9	7.15	Clear, No odour, No sheen,
	27/01/2022	5.71	27.9	305.3	86.8	6.75	Clear, No odour, No sheen,
	28/01/2022	4.63	26.8	311.8	162.7	6.64	Dark reddish brown, No odour, No sheen,
29/01/2022	4.63	29.7	253.7	233.9	6.51	Pale yellow, No odour, No sheen, Weak flow	
30/01/2022	3.06	30.0	272.6	349.1	6.61	Brown, No odour, No sheen,	
13/04/2022	1.87	28.5	312.6	14825	8.07	Medium turbidity, Pale yellow, No odour, No sheen, Still 1 m wide water in earthen culvert	
17/10/2022				Water volume insufficient. Not sampled.			Stagnant. Algae on water's surface.
17/04/2023	6.36	27.4	239.5	347.3	6.67	Turbid, Light Olive Brown, No odour, No sheen	
18/04/2023	6.75	27.5	234.7	1159	6.74	Medium turbidity, Light Olive Brown, No odour, Biosheen appearance	
19/04/2023	7.70	30.9	215.1	1688	6.96	Clear turbidity, No odour, No sheen	
20/04/2023	8.19	29.9	286.4	2293	7.22	Clear turbidity, Light Olive Brown, No odour, No sheen	
21/04/2023	8.64	31.7	210.2	3161	7.02	Low turbidity, Light Olive Brown, No odour, No sheen	
Off-Base - Bohle River/Louisa Creek/Town Common Catchment							
SW017	17/07/2017	3.43	22.8	322.3	3375	7.78	Cl, brown, low turbidity
	11/04/2018	1.79	27.5	280.2	3287	7.07	clear, low turbidity
	11/12/2018	2.98	27	336.4	204.4	7.15	Cloudy, low turbidity, no odour,
	9/05/2019	2.89	24.2	308	2889	7.85	Clear, low turbidity, organic odour
	24/10/2019	4.42	25	347.4	2848	7.79	Clear, low turbidity, no odour.
	5/05/2020	6.00	27	210.8	3719	7.90	Very Dark Greenish Grey, No Odour, Slight Sheen
	8/09/2020	11.63	28	81	3509	8.20	Olive Yellow, No odour,
	27/12/2020	5.33	27.7	381	464.9	7.15	Pale yellow, No odour, Slight sheen, Rubbish present in drain
	28/12/2020	6.83	28.2	346.6	65.6	7.34	Brown, No odour, Slight sheen.
	29/12/2020	6.20	27.3	346	165	6.98	Light Olive Brown, No odour, Oil sheen.
	30/12/2020	6.25	27.2	362.7	159	6.63	Yellowish Brown, No odour, Oil sheen.
	31/12/2020	6.62	26.4	344.6	126.5	6.93	Light Olive Brown, No odour, Oil sheen.
	9/02/2021	5.95	29.2	331.7	255.9	7.02	Light olive brown, No odour, Slight oil sheen.
	10/02/2021	5.31	28.9	293.6	216.9	7.37	Dark olive brown, No odour, Slight oil sheen.
	11/02/2021	6.56	26.9	286.6	279.3	7.56	Brown, No odour, Oil sheen.
	12/02/2021	5.11	27.6	298.4	518	7.33	Light olive brown, No odour, Slight oil sheen.
	13/02/2021	4.27	28.9	289.4	383.3	7.28	Light olive brown, No odour, Slight oil sheen.
	15/04/2021	5.56	27.6	252.6	2618	7.71	Clear, Pale yellow, No odour, Sheen
	6/10/2021	2.71	30.3	203.9	4186	7.83	Clear, Pale yellow, No odour, No sheen
	26/01/2022	6.05	27.0	364.4	105.5	7.28	Clear, HC odour, Sheen, Lots of debris - litter, leaves and sticks
	27/01/2022	5.38	27.5	341.5	137.2	6.87	Clear, HC odour, Slight sheen, Hydrocarbon sheen
28/01/2022	6.45	27.6	347.4	141.4	7.35	Olive yellow, No odour, No sheen, No sheen	
29/01/2022	4.21	28.7	310.6	534.0	7.00	Pale yellow, No odour, Slight sheen, Hydrocarbon sheen	
30/01/2022	3.39	28.6	312.4	816.0	7.06	Clear, No odour, No sheen, Lots of debris - litter, leaves and sticks	
11/04/2022	2.03	29.8	133.1	2451	7.25	Low turbidity, Pale yellow, No odour, No sheen, Still, earthen 1 m wide creek.	
7/10/2022	4.32	26.6	348.2	713	8.65	Low turbidity, Pale Yellow, Grass cutting in progress near sample location.	
17/04/2023	7.56	25.1	246.5	2.4	7.02	Turbid, Light Olive Brown, No odour, No sheen	
18/04/2023	3.44	27.5	282.3	531	6.92	Clear turbidity, No odour, No sheen	
19/04/2023	3.56	29.6	276	945	7.07	Clear turbidity, No odour, No sheen	
20/04/2023	3.66	29.2	294	1592	7.08	Clear turbidity, No odour, No sheen	
21/04/2023	3.43	27.8	281.8	1698	7.02	Clear turbidity, No odour, No sheen	
SW021	17/07/2017	3.56	19.4	293.8	3351	8.16	Cl, brown, low turbidity
	11/12/2018	4.38	28.9	316.2	340	7.37	Cloudy yellow, pooled, no flow, organic odour
	23/09/2020	5.26	26.9	169	2542	7.23	Olive Yellow, Rotten egg smell (sulfurous), No sheen
	15/04/2021	4.31	28.5	124.4	1592	7.45	Clear, Pale yellow, No odour, No sheen
	6/10/2021	2.31	32	9.3	1876	6.96	Low turbidity, Yellowish Brown, Sulfurous odour, No sheen
	11/04/2022	9.95	32.5	350.3	1488	7.08	Low turbidity, Pale yellow, No odour, No sheen, 1 m wide earthen creek culvert.
	7/10/2022	0.86	25.1	322.3	698	8.68	Turbid turbidity, Brown, organic odour, Still water
	3/05/2023	8.52	30.1	271.6	4537	7.86	Clear turbidity, Light Olive Brown, No odour, No sheen
	18/08/2017	3.36	21.8	184.7	973	7.16	black, sludge, organic saturate, Low turbidity
	11/04/2018		25.9	236.9	958	6.36	brown, mod turbidity, organic matter
11/12/2018	7.43	27.1	375.6	3461	5.42	Stagnant, pooled water, clear to cloudy	
6/05/2019	7.57	27.9	240.1	1796	6.89	Clear, low turbidity, organic odour	
23/10/2019	4.29	25.4	231.9	2233	6.24	Clear, low turbidity, organic odour.	
17/04/2020	3.33	26.2	164.8	999	7.12	Bro, No Odour, Slight Sheen	
20/09/2020	5.68	24.8	327.4	1381	6.72	Yellowish Brown, No odour, No sheen	
20/04/2021	7.79	27	263.4	1112	7.28	Medium turbidity, Dark olive brown, Distinct organic odour, Biosheen Appearance	
6/10/2021	3.72	27.7	241.3	1558	6.49	Low turbidity, Yellowish Brown, No odour, No sheen	
12/04/2022	2.48	30.2	289.6	2317	7.85	Medium turbidity, Yellowish brown, Organic Odour, No sheen, Marsh area.	
14/10/2022	2.88	29.9	289.3	2110	8.85	Low turbidity, Yellow, Organic materials present e.g. grass, sediment, nuts.	
3/05/2023	5.10	26.5	373.1	1850	6.83	Low turbidity, Light Olive Brown, No odour, No sheen	
SW111	18/08/2017	5.90	21.43	132	1639	8.06	silty sludge sediment, grey, no odour, organic smell, Low turbidity
	11/04/2018		26.7	227.1	696	6.37	brown, mod turbidity
	10/05/2019	1.67	22.6	189.6	1223	7.22	Clear, low turbidity, organic odour
	17/04/2020	6.55	28.8	183	453.4	6.92	Dark Reddish Brown, No Odour, Biosheen Appearance
	20/09/2020	1.45	25.9	242.4	1584	6.75	Yellowish Red, Slight Organic Odour, Biosheen Appearance
	20/04/2021	7.33	27.8	230.7	1095	7.26	Low turbidity, Dark olive brown, No odour, Biosheen Appearance
	6/10/2021	3.77	25.4	232.7	1912	7.00	Low turbidity, Yellowish Brown, Compost, No sheen
	12/04/2022	4.81	29.9	299.8	1043	7.66	Medium turbidity, Pale yellow, No odour, No sheen, Biological material floating in water.
	14/10/2022	3.05	33.4	299.1	1566	8.45	Low turbidity, Yellow, Still flow, organic material, wetland.
	3/05/2023	7.19	30.2	197.9	3806	7.95	Low turbidity, Light Olive Brown, No odour, No sheen
SW120	17/07/2017	1.11	24.1	280.9	3216	7.95	Cl, brown, low turbidity
	20/04/2018	1.04	28	171.9	3601	7.42	
	12/12/2018	2.49	27.8	372.5	456.6	7.33	clear, organic matter, litter, no odour
	24/10/2019	9.83	27.6	350.6	2593	7.93	Clear, low turbidity, organic odour.
	5/05/2020	5.59	27.7	257.1	2852	7.73	Very Dark Greenish Grey, No Odour, No Sheen
	8/09/2020	1.73	23.5	117.6	3126	6.67	Light Olive Brown, Rotten egg smell (sulfurous), Biosheen Appearance
	15/04/2021	9.53	31.8	252.2	3371	8.11	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	7.36	32.2	161.2	3509	7.71	Clear, Pale yellow, No odour, No sheen
	11/04/2022	3.75	30.1	264	3638	7.52	Low turbidity, Pale yellow, No odour, No sheen, Still, 1 m wide earthen creek.
	7/10/2022	13.18	27.8	368.4	2631	8.69	Low turbidity, -, Significant algae present in water body.
3/05/2023	4.36	29.5	244.2	2963	7.22	Clear turbidity, Light Olive Brown, No odour, No sheen	

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment
SW127	17/07/2017	3.74	20.9	304.1	2297	7.68	Cl, brown, low turbidity
	20/04/2018	3.20	22.6	253.2	3729	8.20	
	11/12/2018	2.00	28.8	326.5	204.3	7.09	Clear/brown, low turbidity, no odour
	7/05/2019	2.81	23.1	270.1	1656	8.00	Clear, low turbidity, organic odour
	24/10/2019	6.43	23.2	361.3	3026	8.13	Clear, low turbidity, organic odour.
	16/04/2020	1.98	26.5	154.9	1225	7.30	Brown, No Odour, Slight Sheen
	24/09/2020	6.42	24	281.4	1750	7.43	Pale yellow, No odour, No sheen
	27/12/2020	2.18	28.2	334.4	609	6.90	Pale yellow, No odour, No sheen.
	28/12/2020	3.42	27	329.2	127	6.82	Brown, No odour, No sheen.
	29/12/2020	3.01	27.4	293.8	94.3	6.46	Yellowish Brown, No odour, No sheen.
	30/12/2020	4.00	26.7	371.7	96.2	6.24	Brown, No odour, No sheen.
	31/12/2020	4.79	25.6	343.8	306.6	5.95	Yellowish Brown, No odour, No sheen.
	9/02/2021	3.80	28.2	340.9	152.6	6.76	Light olive brown, No odour, No sheen.
	10/02/2021	3.20	29.1	310.3	320.2	6.96	Light olive brown, No odour, No sheen.
	11/02/2021	7.65	26.8	277.9	147.1	7.81	Pale yellow, No odour, No sheen.
	12/02/2021	2.89	28.4	291	283.9	6.86	Pale yellow, No odour, No sheen.
	13/02/2021	1.63	27.9	252.7	537	7.01	Pale yellow, Slight Organic Odour, No sheen.
	22/04/2021	5.20	24	308.5	177.9	7.03	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	4.36	27.8	164.5	1164	7.40	Clear, Pale yellow, No odour, No sheen
	26/01/2022	3.73	26.1	374	119.7	7.32	Clear, No odour, No sheen,
	27/01/2022	4.98	27.3	339.3	164.3	6.89	Clear, No odour, No sheen, Flowing, high water level
	28/01/2022	7.41	27.2	328.2	117.9	7.21	Clear, No odour, No sheen,
	29/01/2022	2.58	29.5	334.9	328.9	6.72	Pale yellow, No odour, No sheen,
	30/01/2022	3.21	27.5	390.2	508.0	6.46	Brown, No odour, No sheen,
	11/04/2022	2.78	27.8	285.3	795	7.80	Low turbidity, Pale yellow, No odour, No sheen, 3 m wide concrete culvert, still water.
	7/10/2022	1.63	23.6	342.3	1559	8.63	Low turbidity, Clear, Still water
17/04/2023	6.23	27.6	404.3	418.5	6.62	Low turbidity, No odour, No sheen	
18/04/2023	2.66	26.4	286.8	684	6.59	Clear turbidity, No odour, No sheen	
19/04/2023	2.38	27.8	204.4	2209	6.38	Clear turbidity, No odour, No sheen	
20/04/2023	4.12	25.2	184.2	3442	6.35	Low turbidity, Light Olive Brown, No odour, Biosheen appearance	
21/04/2023	1.73	24.7	97.8	4075	6.68	Low turbidity, Light Olive Brown, No odour, Biosheen appearance	
SW129	17/07/2017	9.78	24.3	307.7	11657	7.96	Cl, brown, low turbidity
	20/04/2018	5.48	28.2	209.7	936	7.86	
	16/04/2020	7.71	31.2	204.1	22270	7.64	Yellow, No Odour, No Sheen
	24/09/2020	5.74	26.3	313.2	34273	7.18	Light Olive Brown, No odour, No sheen
	27/12/2020	4.72	27.9	393.4	11208	7.36	Light Olive Brown, No odour, No sheen.
	28/12/2020	5.13	28.1	385	9225	7.56	Brown, No odour, No sheen.
	29/12/2020	5.74	27.2	308.2	641	6.17	Pale Yellow, No odour, No sheen.
	30/12/2020	6.27	27.1	346.5	438.7	6.51	Brown, No odour, No sheen.
	31/12/2020	5.87	26.9	341.2	469.8	6.12	Yellowish Brown, No odour, No sheen.
	9/02/2021	7.40	28.3	344.6	141.9	7.13	Light olive brown, No odour, No sheen.
	10/02/2021	5.97	30.3	291.7	192.1	7.38	Yellowish brown, No odour, No sheen.
	11/02/2021	6.07	27.9	329.6	993	7.19	Brown, No odour, No sheen. Road Tek workers on other side of the road.
	12/02/2021	6.98	27.5	284.3	309.4	7.39	Pale yellow, No odour, Biosheen Appearance.
	13/02/2021	6.98	27.5	292.1	246.8	7.65	Yellowish brown, No odour, No sheen.
	20/04/2021	8.15	26.5	268.4	1360	8.16	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	4.76	29.6	273.4	42065	7.58	Low turbidity, -, No odour, No sheen
	26/01/2022	6.61	26.7	356.7	325.2	7.22	Brown, No odour, No sheen, Strong flow
	27/01/2022	6.03	26.8	324.9	75.2	6.84	Brown, No odour, No sheen, Fast flowing, high water level.
	28/01/2022	6.61	26.6	310.2	139.4	7.05	Light olive brown, No odour, No sheen,
	29/01/2022	6.21	28.9	327.4	194.4	6.94	Yellow, No odour, No sheen, Weak flow
	30/01/2022	6.45	27.1	344.4	418.3	6.98	Brown, No odour, No sheen,
	11/04/2022	7.12	32.9	318.2	19077	7.62	Low turbidity, Pale yellow, No odour, No sheen, Bohle River, slow flowing 10 m wide.
	7/10/2022	3.72	25.4	382.3	28217	7.60	Low turbidity, Brown, Still water
	18/04/2023	6.40	26.3	256.9	695	7.36	Medium turbidity, Light Olive Brown, No odour, No sheen
	19/04/2023	5.54	27	264.9	1297	6.86	Low turbidity, Light Olive Brown, No odour, No sheen
	20/04/2023	5.41	26.2	276.8	2369	6.89	Low turbidity, Light Olive Brown, No odour, No sheen
21/04/2023	5.29	25.5	246.8	1232	7.04	Low turbidity, Light Olive Brown, No odour, No sheen	
22/04/2023	5.69	25.2	383.9	989	6.73	Clear turbidity, No odour, No sheen	
SW201	17/07/2017	9.72	25.22	206.4	1940	8.72	Clear, low turbidity, no odour
	20/04/2018	4.82	27.2	202.5	735	7.00	clear
	20/04/2018	4.82	27.2	202.5	735	7.00	clear
	12/12/2018	6.70	28.9	355.8	310.2	7.29	Brown, high turbidity, no odour
	23/10/2019	5.55	26.2	365.3	11197	7.72	Clear, no turbidity, no odour.
	16/04/2020	7.42	29.8	171.4	5657	7.63	Yellow, No Odour, No Sheen
	6/10/2021	4.51	30.5	263.3	35621	7.67	Clear, Pale yellow, No odour, No sheen
	11/04/2022	7.54	30.8	304.7	5170	8.01	Low turbidity, Pale yellow, No odour, No sheen, 10 m wide slow flowing river.
	14/10/2022	5.37	28.4	329.4	9095	6.90	Clear turbidity, Clear, Medium flow, algae on rocks under water, fish.
	3/05/2023	10.58	28.7	266.6	1527	7.86	Low turbidity, Light Olive Brown, No odour, No sheen
SW202	15/07/2017	7.60	23.01	251	38763	8.01	Clear, low turbidity, no odour
	18/04/2018	5.25	28.5	234.4	32002	6.35	
	5/12/2018	5.29	31.8	601.4	56481	7.58	Clear, low turbidity, salty odour
	23/10/2019	4.69	27.6	325	47316	7.57	Clear, low turbidity, no odour.
	5/05/2020	5.34	26.8	262	38806	7.46	Light Olive Brown, No Odour, No Sheen
	7/09/2020	5.89	25.7	151.4	55287	7.34	Light Olive Brown, No odour, No sheen
	15/04/2021	8.49	29.3	357	21765	7.35	Low turbidity, Olive yellow, No odour, No sheen
	28/09/2021	-	-	-	-	-	Field observation data lost for this location during data migration.
	4/05/2022	7.60	25	397.6	7751	6.56	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Approx 1.8 m deep, Bohle River, approx. 20m wide
	18/10/2022	3.30	28.9	343.7	43232	7.16	Low turbidity, Light Brown, salty odour, Slight flow, Mangroves along river bed.
11/04/2023	6.70	33.3	364.9	23485	7.32	Low turbidity, Light Olive Brown, No odour, No sheen	
SW203	14/07/2017	8.14	24.11	249	46196	8.33	Clear, low turbidity, no odour
	18/04/2018	5.14	28.6	233.9	48692	6.22	
	5/12/2018	5.56	30.4	585	56236	7.93	Clear, low turbidity, salty odour
	23/10/2019	4.76	26.8	361.5	48735	7.88	Clear, no turbidity, no odour.
	5/05/2020	5.56	26.6	301.9	53934	7.91	Green, No Odour, No Sheen
	8/09/2020	6.46	25	114.4	60213	7.68	Light Olive Brown, No odour, No sheen
	15/04/2021	6.98	30.7	291.4	40530	7.80	Clear, Olive yellow, No odour, No sheen
	28/09/2021	6.11	27.4	307.9	64227	7.86	Low turbidity, Light Olive Brown, No odour, No sheen
	4/05/2022	6.29	26.8	322.7	30789	7.44	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River approx. 30 m wide
	18/10/2022	2.81	28.3	316.8	47815	8.40	Low turbidity, Light Brown, Slight flow, Mangroves along river bed.
11/04/2023	6.49	32.3	309.1	38835	7.65	Low turbidity, Light Olive Brown, No odour, No sheen	
SW204	14/07/2017	7.74	22.55	276.8	44380	8.29	Clear, low turbidity, no odour
	18/04/2018	5.12	28.2	272.6	51542	6.34	
	5/12/2018	5.77	30.6	586.7	56192	7.89	Clear, low turbidity, salty odour
	23/10/2019	5.14	26.5	360.7	49685	8.04	Clear, no turbidity, no odour.
	5/05/2020	5.83	26.1	295.3	55747	7.92	Light Olive Brown, No Odour, No Sheen
	8/09/2020	6.75	25.4	111	59903	7.48	Light Olive Brown, No odour, No sheen
	15/04/2021	7.23	28.9	284	41333	7.90	Low turbidity, Olive yellow, No odour, No sheen
	28/09/2021	6.21	25.7	291.7	63278	7.97	Clear, Light Olive Brown, No odour, No sheen
	5/05/2022	6.25	28.4	306.7	35786	8.51	Clear turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River mouth approx. 40-50 m wide
	18/10/2022	3.39	27.8	312.7	48253	8.61	Low turbidity, Light Brown, Slight flow, Mangroves along river bed, mouth opens to ocean.
11/04/2023	6.33	32	274.4	50466	7.75	Low turbidity, Light Olive Brown, No odour, No sheen	
SW205	15/07/2017	3.06	22.08	248.6	25411	7.55	Clear brown, low turbidity, no odour
	18/04/2018	3.78	27.4	257.2	15143	6.33	
	5/12/2018	4.07	31.2	653.8	51775	6.59	Clear, low turbidity, salty odour
	23/10/2019	2.67	26.2	341.8	22843	7.41	clear, no odour no turbidity.
	5/05/2020	2.89	28	260.5	19085	7.26	Dark Olive Brown, No Odour, No Sheen
	8/09/2020	4.08	26.8	112.5	16257	7.09	Light Olive Brown, No odour, No sheen
	15/04/2021	5.01	31.5	283.6	8280	7.23	Clear, Olive yellow, No odour, No sheen
	28/09/2021	4.40	29.1	370.6	16390	7.50	Low turbidity, Light Olive Brown, No odour, No sheen
	4/05/2022	3.77	25.6	334.5	2754	7.00	Clear turbidity, Pale yellow, Slight Organic Odour, No sheen, approx. 1.8 m deep, Bohle River, approx. 10-15 m wide.
	18/10/2022	1.73	27.8	314.4	28115	7.77	Low turbidity, Light Brown, salty odour, Slight flow, Mangroves along river bed.
11/04/2023	4.17	31.5	303	4860	7.21	Low turbidity, Light Olive Brown, No odour, No sheen	
SW206	15/07/2017	6.81	23.49	252.4	39965	7.80	Clear, low turbidity, no odour
	18/04/2018	5.22	28.5	264.7	38640	6.38	
	5/12/2018	5.08	31.2	605.1	56710	7.59	Clear, low turbidity, salty odour
	23/10/2019	4.23	26.9	353.7	42921	7.57	Clear, no turbidity, no odour.
	5/05/2020	4.61	28	283.2	42269	7.46	Light Olive Brown, No Odour, No Sheen
	23/09/2020	5.81	26.6	116.4	56383	7.33	Light Olive Brown, No odour, No sheen
	15/04/2021	7.58	30.1	291.3	9686	7.57	Low turbidity, Olive yellow, No odour, No sheen
	28/09/2021	5.82	26.7	355.5	54386	7.63	Low turbidity, Light Olive Brown, No odour, No sheen
	4/05/2022	4.89	29.4	310.5	9229	7.02	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River approx. 20 m wide
	18/10/2022	2.40	28.2	317.6	39595	7.99	Clear turbidity, Clear, Slight flow, Mangroves along river bed.
11/04/2023	5.90	32.3	313.7	13287	7.33	Low turbidity, Light Olive Brown, No odour, No sheen	
SW207	15/07/2017	7.07	22.68	257.1	41065	7.84	Clear, low-moderate turbidity, no odour
	5/12/2018	5.10	31.5	604.2	55583	7.47	Clear, low turbidity, salty odour
	23/10/2019	3.58	25	362.8	45828	7.56	Clear, low turbidity, no odour.
	5/05/2020	4.26	27.1	308.7	48117	7.44	Light Olive Brown, No Odour, No Sheen
	8/09/2020	6.38	24	164.5	54155	7.41	Light Olive Brown, No odour, No sheen
	15/04/2021	7.03	28.1	284	250	7.03	Low turbidity, Olive yellow, No odour, No sheen
	28/09/2021	4.52	26.9	317	61852	7.48	Low turbidity, Light Olive Brown, No odour, No sheen
	4/05/2022	5.85	28	322.5	16789	7.20	Low turbidity, Pale yellow, Slight Organic Odour, No sheen, Bohle River, approx. 15-20 m wide
	18/10/2022	2.54	27.3	319.3	43211	8.24	Low turbidity, Light Brown, Slight flow, Mangroves along river bed.
	11/04/2023	6.76	32.5	313.9	30170	7.49	Low turbidity, Light Olive Brown, No odour, No sheen

Location ID	Sampled Date	DO (mg/L)	Temp (°C)	Corrected Redox (mV)	EC (µs/cm)	pH	Comment
Off-Base - Mundy Creek Catchment							
SW108	17/07/2017	9.91	34.2	300.7	10933	8.68	Cl, brown, low turbidity
	10/04/2018	7.23	32.7	237.6	19049	8.54	brown, low turbidity, organic matter
	6/12/2018	2.02	31.5	666.3	33062	4.93	Parameters collected from pole sampler scoop as the surface water was too shallow to take in-situ parameters. Clear, low turbidity, no odour
	6/05/2019	14.28	27	79.4	42824	8.68	Clear, low turbidity, organic odour
	24/10/2019	0.63	30	316.3	188227	6.29	Brown, moderate turbidity, organic odour.
	15/04/2020	8.35	31.7	174.3	76855	8.37	Light Brown, No Odour, No Sheen
	21/09/2020	7.84	33.1	294.5	85315	8.27	Light Olive Brown, No odour, No sheen
	27/12/2020	10.30	30.9	353.2	22376	8.20	Brown, No odour, No sheen.
	28/12/2020	8.67	34.2	340.4	17060	7.57	Yellowish Brown, No odour, No sheen.
	29/12/2020	5.61	28.4	387.3	8763	6.42	Brown, No odour, Biosheen Appearance, Council quad bike drove through creek spraying pellets for mosquito control
	30/12/2020	4.95	33.9	319.9	1841	6.48	Yellow, No odour, No sheen. Pellets for mosquito control sprayed 29-12-20
	31/12/2020	2.69	30	327.2	938	9.39	Dark Reddish Brown, No odour, No sheen. Pellets for mosquito control sprayed 29-12-20
	9/02/2021	6.17	32.9	274.2	7649	8.80	Yellowish brown, No odour, No sheen.
	10/02/2021	4.21	28.2	331.7	6338	7.61	Dark reddish brown, Weak compost odour, No sheen.
	11/02/2021	4.99	27.9	300.7	5522	7.60	Dark reddish brown, No odour, No sheen.
	12/02/2021	8.33	29	332.5	3749	7.66	Dark reddish brown, No odour, No sheen.
	13/02/2021	3.21	26.9	348.7	1855	7.18	Yellowish brown, No odour, No sheen.
	20/04/2021	11.81	28.7	333.8	12696	8.35	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	6.88	34.3	349.1	178290	7.70	Clear, Pale yellow, No odour, No sheen
	26/01/2022	6.79	27.2	328.9	537.0	6.99	Brown, No odour, No sheen.
	27/01/2022	4.19	29.5	316.3	803.0	6.65	Brown, No odour, No sheen.
	28/01/2022	4.72	30.0	330.2	1580.0	6.86	Light olive brown, No odour, No sheen.
	29/01/2022	4.13	32.9	295.8	1829.0	6.67	Pale yellow, No odour, No sheen, No flow
	30/01/2022	3.98	35.7	294.9	4431.0	6.92	Brown, No odour, No sheen.
	12/04/2022	6.95	34.5	281.4	100,174	9.13	Medium turbidity, Pale yellow, No odour, No sheen, Still water body, over 10 m wide
	14/10/2022	5.73	33.5	315.1	-	9.05	Low turbidity, Light Yellow, Slight flow, human barefoot foot tracks into water body. Mangroves along river bed.
18/04/2023	6.32	28.3	284.4	16335	7.42	Medium turbidity, Light Olive Brown, No odour, No sheen	
19/04/2023	10.01	30.6	246.8	13541	8.39	Clear turbidity, No odour, No sheen	
20/04/2023	10.21	32.3	264.2	10931	8.29	Low turbidity, Light Olive Brown, No odour, No sheen	
21/04/2023	9.02	30.6	250.3	6285	8.20	Low turbidity, Light Olive Brown, No odour, No sheen	
22/04/2023	8.76	31.4	234.6	6166	7.83	Clear turbidity, No odour, No sheen	
SW109	17/07/2017	5.55	25.9	1137.9	47024	7.95	Cl, brown, low turbidity
	10/04/2018	4.18	29.6	253.6	36951	7.82	light brown, turbid
	3/12/2018	5.72	35.9	194	57266	8.03	WQM didn't record Redox. Clear, low turbidity, salty
	6/05/2019	4.17	24.5	217.6	41402	7.18	Clear, low turbidity, salty odour
	22/10/2019	2.95	29	359.3	49793	7.91	Clear, low turbidity, no odour.
	15/04/2020	7.50	30.1	192.7	51108	7.86	Light Brown, No Odour, No Sheen
	21/09/2020	6.67	27.2	314	58981	8.04	Other, No odour, No sheen
	27/12/2020	6.05	28.1	416.7	14365	6.50	Pale Yellow, No odour, No sheen.
	28/12/2020	5.86	30.6	292.9	2668	6.81	Brown, No odour, No sheen.
	29/12/2020	5.74	26	386.6	3400	6.19	Brown, No odour, No sheen.
	30/12/2020	6.04	30.6	324.5	3008	6.64	Light Olive Brown, No odour, No sheen.
	31/12/2020	5.63	29.1	345.6	1938	6.49	Light Olive Brown, No odour, No sheen.
	9/02/2021	5.72	30.8	294.8	4157	8.24	Light olive brown, No odour, No sheen. Outgoing (low) tide
	10/02/2021	5.79	29.2	356.3	49429	8.00	Light olive brown, No odour, No sheen. Incoming (high) tide
	11/02/2021	6.37	28.3	332	49888	8.01	Yellowish brown, No odour, No sheen. Outgoing tide
	12/02/2021	7.29	27.6	346.1	7006	7.32	Light olive brown, No odour, No sheen. Outgoing tide
	13/02/2021	5.82	26.5	390.8	23494	7.32	Yellowish brown, No odour, No sheen. Incoming tide
	20/04/2021	6.66	26.9	307.5	1931	7.47	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	6.16	30.8	230.7	60863	7.86	Low turbidity, Pale yellow, No odour, No sheen
	26/01/2022	6.42	27.4	314.3	942.0	6.84	Brown, No odour, No sheen.
	27/01/2022	6.09	28.9	325.9	914.0	6.75	Brown, No odour, No sheen, Tide flowing out
	28/01/2022	6.34	28.6	313.6	1601.0	6.97	Light olive brown, No odour, No sheen.
	29/01/2022	6.35	31.6	300.3	2871.0	7.00	Pale yellow, No odour, No sheen, Slow flowing, low tide
	30/01/2022	6.19	33.7	311.8	10904.0	7.06	Brown, No odour, Biosheen appearance, Biosheen, tide flowing out
	12/04/2022	5.26	30	288	53110	8.74	Low turbidity, Pale yellow, No odour, No sheen, Low tide in channel
	7/10/2022	5.88	28.9	352.3	48158	8.55	Low turbidity, Clear, Still water
18/04/2023	5.47	27.3	294	43090	7.33	Low turbidity, No odour, No sheen	
19/04/2023	6.95	29.1	266.1	27263	7.40	Clear turbidity, No odour, No sheen	
20/04/2023	7.00	28.4	284.2	20180	7.37	Low turbidity, No odour, No sheen	
21/04/2023	7.34	27.8	278.1	19019	7.55	Low turbidity, Light Olive Brown, No odour, No sheen	
22/04/2023	6.56	27	263.9	34772	7.47	Low turbidity, Light Olive Brown, No odour, No sheen	
SW113	16/08/2017	3.43	20.8	223.7	8020	7.40	-
	10/04/2018	-	27.6	255	1390	6.86	no surface water (dry), only a sediment sample collected
	16/04/2020	1.49	25.6	240	4951	7.29	Dark Reddish Brown, Organic Odour, No Sheen
	6/05/2021	5.80	27.9	135	3539	7.29	Low turbidity, Olive yellow, Distinct sulfurous odour, Biosheen Appearance
	6/10/2021	10.36	31	212.7	9603	8.18	Low turbidity, Yellow, No odour, No sheen
	12/04/2022	4.61	28.1	259.6	2123	8.93	Low turbidity, Yellow, No odour, No sheen, 3 m wide still water creek
SW114	7/10/2022	6.40	28.7	353.8	5953	8.71	Low turbidity, Pale Yellow, Still water
	3/05/2023	4.90	27.7	209.2	3447	7.24	Clear turbidity, Light Olive Brown, Slight organic odour, No sheen
	17/07/2017	4.46	22.7	319.5	4841	7.55	Cl, brown, low turbidity
	10/04/2018	4.05	29.4	282.1	1915	6.89	brown, low tide, low turbidity
	15/04/2020	11.47	34.1	168.2	1717	8.48	No Odour, No Sheen
	21/09/2020	6.74	32.8	298.7	61854	7.55	Brown, Rotten egg smell (sulfurous), No sheen
	22/04/2021	5.57	25.1	316.4	4365	6.93	Low turbidity, Pale yellow, No odour, No sheen
	6/10/2021	8.12	34.6	244.1	52656	7.87	Low turbidity, Pale yellow, No odour, Biosheen Appearance
	11/04/2022	10.12	30.9	219.5	2931	7.95	Low turbidity, Pale yellow, Organic Odour, No sheen, Stagnant shallow water, overgrown area.
	7/10/2022	1.26	27.9	300.5	14003	7.92	Low turbidity, Pale Yellow, organic odour, Still water
22/04/2023	4.69	31.3	260.9	25332	6.50	Clear turbidity, Light Olive Brown, No odour, No sheen	
SW115	17/07/2017	3.11	23	297.8	2499	8.27	Cl, brown, low turbidity
	10/04/2018	2.21	29.1	191.6	990	7.00	brown, low turbidity
	13/12/2018	1.73	29.1	286.3	1685	7.58	Clear/brown, anoxic odour, organic matter, stagnant water
	24/10/2019	3.07	27.6	353.7	268	7.74	Clear, low turbidity, organic odour.
	15/04/2020	9.63	32.1	190.8	8860	7.77	Brown, No Odour, No Sheen
	21/09/2020	10.61	32.7	297.3	44111	8.11	Organic Odour,
	27/12/2020	4.36	29.4	340.6	2243	6.76	No odour, No sheen.
	28/12/2020	5.53	33	316	1277	6.74	Brown, No odour, No sheen.
	29/12/2020	5.27	26.2	387.3	546	6.13	Brown, No odour, Biosheen.
	30/12/2020	6.01	31.3	296.2	1068	6.39	Brown, No odour, No sheen.
	31/12/2020	5.65	28.3	270.6	650	6.41	Brown, No odour, No sheen.
	9/02/2021	5.12	30.4	373.4	1166	6.85	Light olive brown, No odour, No sheen.
	10/02/2021	5.21	27.4	387	21506	7.20	Light olive brown, No odour, No sheen.
	11/02/2021	5.45	26.9	336.6	4505	7.08	Yellowish brown, No odour, No sheen.
	12/02/2021	6.86	27.7	338.9	3117	7.26	Brown, No odour, No sheen.
	13/02/2021	5.39	25.9	338.7	2769	7.09	Yellowish brown, Slight Organic Odour, No sheen.
	16/04/2021	6.96	26.5	334.9	3000	7.27	Low turbidity, Pale brown, No odour, No sheen
	6/10/2021	8.43	35.1	221	57592	7.73	Low turbidity, Pale yellow, No odour, No sheen
	26/01/2022	6.39	27.7	356.5	233.3	6.75	Brown, No odour, No sheen.
	27/01/2022	5.23	29.4	334.7	196.7	7.38	Brown, No odour, No sheen.
	28/01/2022	6.14	29.5	328.6	635.0	7.00	Light olive brown, No odour, No sheen.
	29/01/2022	6.46	33.0	288.1	1617.0	7.01	Yellow, No odour, No sheen, Weak flow
	30/01/2022	6.96	32.9	304.5	2557.0	7.22	Brown, No odour, No sheen.
	12/04/2022	6.05	31.6	291.8	33079	8.40	Medium turbidity, Pale yellow, No odour, No sheen, 4m wide earthen channel under bridge
	7/10/2022	4.60	31.5	374.9	40214	8.23	Low turbidity, Brown, Still water
	18/04/2023	4.65	27.4	327.4	32750	6.79	Clear turbidity, No odour, No sheen
19/04/2023	6.02	28.6	258.3	12245	6.90	Clear turbidity, Light Olive Brown, No odour, No sheen	
20/04/2023	6.96	29.4	275.8	10675	7.03	Low turbidity, No odour, No sheen	
21/04/2023	7.77	30.6	249.8	9579	7.33	Low turbidity, Light Olive Brown, No odour, No sheen	
22/04/2023	7.66	28	244.5	12252	7.19	Low turbidity, No odour, No sheen	
SW116	17/07/2017	3.06	22.7	336.1	25015	7.22	Cl, brown, low turbidity
	10/04/2018	-	28.5	271.5	10678	7.11	brown, low tide, low turbidity
	12/12/2018	3.04	30.1	361.5	1270	7.44	Brown, low turbidity, no odour
	24/10/2019	2.72	25.1	266.5	26688	7.13	Clear, low turbidity, no odour.
	15/04/2020	6.83	30.4	207.2	33839	7.64	Brown, No Odour, No Sheen
	21/09/2020	5.68	28.3	312.2	26321	7.25	Light Olive Brown, No odour, No sheen
	27/12/2020	4.93	28.5	360.6	2374	6.64	Brown, Slight Organic Odour, No sheen.
	28/12/2020	5.68	32.8	297.6	1322	6.58	Brown, No odour, No sheen.
	29/12/2020	5.81	25.9	311.9	597	6.24	Brown, No odour, No sheen.
	30/12/2020	5.92	30.5	315.3	885	6.51	Light Olive Brown, No odour, No sheen.
	31/12/2020	6.11	28.5	325.1	535	6.49	Light Olive Brown, No odour, No sheen.
	9/02/2021	5.34	30.5	331.8	1180	7.32	Light olive brown, No odour, No sheen.
	10/02/2021	5.65	28.6	367.8	41585	7.86	Light olive brown, No odour, No sheen.
	11/02/2021	6.51	27.4	339.4	16770	7.64	Yellowish brown, No odour, Biosheen Appearance.
	12/02/2021	6.94	27.8	311.5	3528	7.24	Yellow, No odour, No sheen.
	13/02/2021	5.17	26.4	333.2	2051	7.06	Yellowish brown, No odour, Biosheen Appearance.
	20/04/2021	6.87	26.2	304.9	1104	7.65	Low turbidity, Yellowish brown, No odour, No sheen
	6/10/2021	5.72	31.5	240.7	61018	7.66	Medium turbidity, Pale yellow, No odour, Biosheen Appearance
	26/01/2022	6.45	27.5	340.2	265.6	6.80	Light olive brown, No odour, No sheen, Strong flow
	27/01/2022	5.44	29.0	319.5	302.7	6.78	Brown, No odour, No sheen.
	28/01/2022	5.88	28.5	375	822.0	6.72	Light olive brown, No odour, No sheen, Very

Table T4: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																														
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS	
SW019	14/08/2017	<0.05	0.48	2.19	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	5.37	2.7	0.13	0.04	<0.02	1.53	2.56	14.8	33.1	5	5.61	<0.05	<0.02	<0.02	0.74	35.6	4.88	68.7	115	
	14/08/2017	<0.05	1.09	1.19	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	3.86	2.3	0.1	<0.02	<0.02	1.53	1.03	11	26.8	3.3	4.26	<0.05	<0.02	<0.02	0.51	31.8	3	58.6	91.8	
	19/04/2018	<0.05	0.13	0.82	<0.05	<0.05	<0.02	<0.05	0.19	<0.05	<0.02	<0.05	12	3.6	0.08	0.04	<0.02	2.8	5.95	23.9	69	5.3	11	<0.05	<0.02	<0.02	0.31	62	4.4	131	202	
	19/12/2018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.578	<0.020	0.034	0.007	<0.002	0.224	0.324	1.15	4.07	0.298	0.484	<0.005	<0.002	0.004	0.082	6.26	0.546	11.4	16.3	
	19/12/2018	-	0.168	1	-	-	-	-	0.068	-	-	-	0.904	2.21	0.097	0.026	-	4.72	0.336	11.8	5.6	4.9	0.759	-	-	<0.0200	0.456	7.28	2.74	11.9	40.8	
	1/05/2019	<0.001	<0.005	0.011	<0.001	<0.001	<0.0005	<0.001	<0.002	<0.001	<0.0005	<0.001	2.31	0.225	0.0093	<0.002	0.0007	0.532	0.783	4.16	12.2	1.1	2.31	<0.0005	<0.0005	0.002	0.0338	10.5	0.787	23.2	38.8	
	1/05/2019	-	0.011	0.139	-	-	-	-	0.037	-	-	-	2.48	1.83	0.014	0.011	<0.002	1.15	1.35	9.03	12.7	2.31	2.43	-	-	-	0.088	13.4	0.932	25.6	44.1	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	0.1	<0.02	<0.02	<0.02	0.17	0.26	1.32	0.07	0.11	-	<0.05	<0.02	<0.02	<0.02	4.72	0.08	6.04	6.94	
	30/01/2020	<0.05	<0.05	0.06	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.47	<0.2	<0.05	<0.05	<0.05	0.08	0.24	0.84	3.88	0.19	0.42	<0.12	<0.05	<0.05	<0.05	5.21	0.2	9.09	11.6	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.7	0.3	<0.05	<0.05	<0.05	0.12	0.43	1.7	6.09	0.36	0.66	<0.12	<0.05	<0.05	<0.05	8.24	0.31	14.3	18.9	
	30/04/2020	<0.05	<0.05	0.4	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.86	0.8	<0.05	<0.05	<0.05	0.52	0.48	2.48	8.23	1.34	0.91	<0.12	<0.05	<0.05	0.07	11.6	0.65	19.8	28.3	
	22/04/2021	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.07	2.94	0.28	0.43	<0.05	<0.02	<0.02	<0.02	5.63	0.29	8.57	11.9	
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.96	<0.5	<0.02	<0.02	<0.02	0.12	0.33	2.41	4.52	0.78	0.81	<0.05	<0.02	<0.02	<0.02	4.69	0.23	9.21	14.8	
	21/04/2023	<0.05	<0.23	0.49	<0.05	<0.12	<0.05	<0.12	0.08	<0.12	<0.05	<0.12	1.13	0.4	<0.05	<0.05	<0.05	0.83	0.73	2.75	8.73	0.66	1.07	<0.12	<0.05	<0.05	0.06	14.6	0.72	23.3	32.2	
	SW112	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.04	0.1	0.22	
		19/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.0311	<0.002	0.0034	<0.0005	<0.0005	0.0093	0.0063	0.0558	0.136	0.0376	0.0146	<0.0005	<0.0005	<0.0005	0.0014	0.166	0.0384	0.302	0.504
		19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	0.0081	<0.0005	0.0505	<0.0005	0.036	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0087	<0.0003	0.107
20/12/2018		<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0007	<0.001	<0.0005	<0.001	0.0459	<0.002	0.0041	<0.0005	<0.0005	0.0082	0.0093	0.0664	0.111	0.0431	0.0115	<0.0005	<0.0005	<0.0005	0.0018	0.283	0.0297	0.394	0.621	
3/05/2019		<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0316	<0.002	0.0014	<0.0005	<0.0005	0.0045	0.0044	0.0153	0.0574	0.0193	0.0089	<0.0005	<0.0005	<0.0005	0.0007	0.102	0.0151	0.159	0.263	
25/10/2019		<0.001	0.019	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	0.0009	<0.0005	<0.0005	0.0055	0.0018	0.0314	0.0275	0.0361	<0.0005	<0.0005	<0.0005	0.0005	0.0479	0.0115	0.0754	0.185		
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.16	0.17	
9/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.14	
27/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
28/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08	
29/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.01	0.12	0.21
30/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.1	0.01	0.09	0.16
31/12/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.1	0.01	0.08	0.15
9/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.02	0.19	0.29
10/02/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.07	0.02	<0.02	<0.05	<0.02	&					

Table T4: Historical Surface Water PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																											0.13	220	0.01	0.01
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																											2	10	2	

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS	
SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.3	0.64	25.3	34.1	
	1/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	0.0026	1.57	0.0652	2.44	3.03
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.038	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	8.25	
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.143	0.02	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0026	3.17	0.107	4.71	5.67	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	0.0026	7.02	0.307	9.79	13.2	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	0.0026	7.33	0.345	10.9	14.6	
	4/03/2018	<0.020	<0.020	0.024	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.72	0.35	<0.0200	<0.0200	<0.0200	0.466	1.24	3.82	15.5	0.74	1.91	<0.0500	<0.0200	<0.0200	0.0026	19.9	1.04	35.4	47.7	
	4/03/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.78	0.198	<0.0200	<0.0200	<0.0200	0.506	1.34	3.99	16.5	0.806	1.86	<0.0500	<0.0200	<0.0200	0.0026	20.3	0.984	36.8	49.3	
	5/03/2018	<0.010	<0.010	0.027	<0.010	<0.025	<0.0100	<0.025	0.038	<0.025	<0.0100	<0.025	2.2	1.12	<0.0100	<0.0100	<0.0100	0.513	1.33	5.26	16.7	1.17	2.09	<0.0250	<0.0100	<0.0100	0.021	20.4	1.28	37.1	52.1	
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.025	<0.025	<0.0100	<0.025	6.33	1.53	<0.0100	<0.0100	<0.0100	0.851	2.51	7.35	23.4	3.18	5.06	<0.0250	<0.0100	<0.0100	0.039	20.5	2.71	43.9	73.5	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.53	0.8	<0.02	<0.02	<0.02	0.48	1.09	4.28	16.6	1.01	2.66	<0.05	<0.02	<0.02	0.03	18.7	1.06	35.6	57.4	
	18/04/2018	-	-	-	-	-	-	-	<0.10	-	-	-	2.96	1.8	-	-	-	1.58	1.6	14.5	16.9	3.79	2.67	-	-	-	0.11	25.9	1.47	42.5	65.1	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.88	0.8	<0.02	<0.02	<0.02	0.34	<0.02	3.93	<0.02	0.99	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	0.32	<0.01	8.2	7.32
	17/12/2018	<0.002	<0.002	0.007	<0.002	<0.005	<0.0020	<0.005	0.006	<0.005	<0.0020	<0.005	0.891	0.114	<0.0020	<0.0020	<0.0020	0.118	0.348	1.28	4.95	0.353	0.545	<0.0050	<0.0020	<0.0020	0.006	3.97	0.271	8.92	12.9	
	1/05/2019	<0.001	0.012	0.034	<0.001	<0.001	<0.0005	<0.001	0.0219	<0.001	<0.0005	<0.001	2.97	0.113	0.0075	0.0109	<0.0005	0.32	1.16	4.9	1.63	0.803	2.18	<0.0050	<0.0005	0.0006	0.0296	17.2	1.01	18.8	32.4	
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	1.49	0.6	<0.02	<0.02	<0.02	0.36	0.87	3.46	11.5	0.8	1.37	<0.05	<0.02	<0.02	0.04	24.7	0.88	36.2	46.1	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	0.1	<0.02	<0.02	<0.02	0.02	0.04	0.18	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.78	0.01	0.96	1.15	
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.1	0.12	0.65	0.04	0.06	<0.05	<0.02	<0.02	<0.02	3.06	0.05	3.71	4.15	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.17	<0.2	<0.05	<0.05	<0.05	0.21	0.28	1.88	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	<0.05	4.44	0.12	6.12	7.28	
	29/04/2020	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	1.86	0.7	<0.02	0.03	<0.02	0.39	0.92	3.91	9.33	1.1	1.74	<0.05	<0.02	<0.02	0.03	12.6	0.66	21.9	33.4	
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.5	<0.2	<0.04	<0.04	<0.04	0.14	0.42	1.22	3.99	0.33	0.44	<0.11	<0.04	<0.04	<0.04	27.3	0.37	31.3	34.7	
	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	0.04	0.11	0.41	1.29	0.08	0.17	<0.05	<0.02	<0.02	<0.02	3.76	0.07	5.05	6.11	
	28/12/2020	<0.05	<0.05	0.06	<0.05	<0.13	<0.05	<0.13	0.2	<0.13	<0.05	<0.13	0.21	<0.2	<0.05	0.59	<0.05	0.06	0.23	0.51	2.01	0.11	0.24	<0.13	<0.05	<0.05	<0.05	18.1	0.12	20.1	22.4	
	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.07	0.13	0.57	0.04	0.06	<0.05	<0.02	<0.02	<0.02	3.06	0.03	3.63	4.02		
	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.11	0.2	0.76	<0.07	0.09	<0.05	<0.02	<0.02	<0.02	3.28	0.04	4.04	4.59		
	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.03	<0.02	0.02	0.09	0.19	0.68	0.05	0.09	<0.05	<0.02	<0.02	<0.02	3.21	0.05	3.89	4.48	
	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.35	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.71	2.19	0.19	0.3	<0.09	<0.04	<0.04	<0.04	4.28	0.15	6.47	8.42	
	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.39	0.2	<0.04	<0.04	<0.04	0.08	0.19	0.76	2.39	0.23	0.4	<0.09	<0.04	<0.04	<0.04	3.67	0.16	6.06	8.47	
	11/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	0.1	<0.02	<0.02	<0.02	0.04	0.14	0.34	1.29	0.09	0.18	<0.05	<0.02	<0.02	<0.02	3.42	0.09	4.71	5.89	
	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02															

Table T4: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS		
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																	
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																	
Location ID	Sample Date																																
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153	1.68	1.68	
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.0084	0.174	0.0738	0.891	1.7		
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.151	1.73	2.74		
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6		
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5		
	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	0.2	<0.02	<0.02	<0.02	0.05	<0.02	0.17	0.21	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.04	1.02	1.65		
	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.1	0.19	0.08	0.02	<0.05	<0.02	<0.02	<0.02	0.76	0.04	0.95	1.26		
	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	0.2	<0.02	<0.02	<0.02	0.08	<0.02	0.2	0.39	0.22	0.05	<0.05	<0.02	<0.02	<0.02	1.11	0.08	1.5	2.41		
	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.48	0.02	0.57	0.63		
	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.12	0.29	0.09	0.04	<0.05	<0.02	<0.02	<0.02	1.06	0.08	1.35	1.79		
	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	<0.02	<0.02	<0.02	0.1	0.04	0.25	0.45	0.18	0.05	<0.05	<0.02	<0.02	<0.02	2.88	0.14	3.33	4.25		
	10/02/2021	<0.05	0.25	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	0.03	0.19	0.42	0.12	0.06	<0.05	<0.02	<0.02	<0.02	2.24	0.1	2.66	3.53		
	11/02/2021	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.17	0.37	0.07	0.05	<0.05	<0.02	<0.02	<0.02	1.71	0.08	2.08	2.62		
	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.05	0.03	0.14	0.35	0.06	0.04	<0.05	<0.02	<0.02	<0.02	1.97	0.1	2.32	2.78		
	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.07	0.05	0.26	0.83	0.09	0.1	<0.05	<0.02	<0.02	<0.02	2.64	0.16	3.47	4.3		
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.14	0.17		
	26/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.11	0.11		
	27/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	0.1	<0.02	<0.02	<0.02	0.11	0.05	0.34	0.8	0.1	0.13	<0.05	<0.02	<0.02	<0.02	1.94	0.18	2.74	3.85		
28/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.1	0.24	0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.46	0.06	0.7	1.07			
29/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	0.1	<0.02	<0.02	<0.02	0.12	0.07	0.37	1.1	0.15	0.16	<0.05	<0.02	<0.02	<0.02	2.72	0.26	3.82	5.19			
30/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	0.2	<0.02	<0.02	<0.02	0.17	0.14	0.72	1.9	0.2	0.27	<0.05	<0.02	<0.02	<0.02	3.86	0.38	5.76	8.08			
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48	0.91			
17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.12	<0.2	<0.02	<0.02	<0.02	0.13	<0.02	0.26	0.43	0.21	0.05	<0.05	<0.02	<0.02	0.03	0.65	0.13	1.08	1.89			
17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.07	0.02	0.13	0.31	0.16	0.05	<0.05	<0.02	<0.02	0.02	0.59	0.08	0.9	1.53			
18/04/2023	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.1	0.03	0.18	0.53	0.18	0.1	<0.05	<0.02	<0.02	0.04	1.06	0.11	1.59	2.63			
19/04/2023	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.3	0.1	<0.02	<0.02	<0.02	0.1	0.05	0.32	0.84	0.19	0.12	<0.05	<0.02	<0.02	0.05	1.94	0.13	2.78	3.97			
20/04/2023	<0.05	0.17	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.74	0.2	<0.02	<0.02	<0.02	0.15	0.07	0.45	1.27	0.29	0.19	<0.05	<0.02	<0.02	0.06	2.48	0.2	3.75	6.27			
21/04/2023	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.1	<0.02	<0.02	<0.02	0.14	0.08	0.47	1.12	0.33	0.19	<0.05	<0.02	<0.02	0.08	2.81	0.18	3.93	6.12			
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	17.7	1.18	27.7	45.7			
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0																											

Table T4: Historical Surface Water PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHPa	PFHPs	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																											0.13	220		
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																											2	10	2	

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHPa	PFHPs	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS
SW132	1/03/2018	<0.002	0.193	0.042	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	1.75	0.148	<0.0020	<0.0020	<0.0020	1.13	0.97	6.46	14.4	1.22	2.19	<0.0050	<0.0020	<0.0020	0.0412	27.3	2.88	41.7	58.7
	2/03/2018	<0.002	0.112	0.034	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	2.16	0.196	<0.0020	<0.0020	<0.0020	1.32	1.2	6.22	15	1.43	2.62	<0.0050	<0.0020	<0.0020	0.066	27.1	2.63	42.1	60.1
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.364	0.054	<0.0020	<0.0020	<0.0020	0.0602	0.153	0.506	2.14	0.114	0.298	<0.0050	<0.0020	<0.0020	0.0022	4.54	0.145	6.68	8.38
	3/03/2018	<0.010	0.058	0.018	<0.010	<0.025	<0.0100	<0.025	0.018	<0.025	<0.0100	<0.025	1.4	0.899	<0.0100	<0.0100	<0.0100	1.08	0.918	6.62	11.9	1.07	1.46	<0.0250	<0.0100	<0.0100	0.049	28.6	2.69	40.5	56.8
	3/03/2018	<0.010	0.092	0.016	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	1.63	1.04	<0.0100	<0.0100	<0.0100	1.3	1.05	8.01	14.7	1.25	1.55	<0.0250	<0.0100	<0.0100	0.063	35.6	3.04	50.3	69.3
	4/03/2018	<0.020	0.092	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	3.46	0.39	<0.0200	0.0557	<0.0200	1.73	1.38	9.05	18.8	1.83	2.66	<0.0500	<0.0200	<0.0200	0.062	27.6	3.72	46.4	70.8
	4/03/2018	<0.020	0.094	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	3.44	0.294	<0.0200	<0.0200	<0.0200	1.77	1.2	8.91	19.8	1.62	2.58	<0.0500	<0.0200	<0.0200	0.058	26.8	3.71	46.6	70.3
	5/03/2018	<0.010	0.076	<0.010	<0.010	<0.025	<0.0100	<0.025	0.02	<0.025	<0.0100	<0.025	1.82	1.05	<0.0100	<0.0100	<0.0100	1.28	0.984	7.33	14.5	1.27	1.8	<0.0250	<0.0100	<0.0100	0.054	25.2	2.98	39.7	58.4
	5/03/2018	<0.010	0.098	<0.010	<0.010	<0.025	<0.0100	<0.025	0.011	<0.025	<0.0100	<0.025	4.35	1.51	<0.0100	<0.0100	<0.0100	1.47	1.47	10.3	18.8	2.69	3.93	<0.0250	<0.0100	<0.0100	0.094	26.5	5	45.3	76.2
	17/04/2018	<0.001	0.068	0.002	<0.001	<0.001	<0.0005	<0.001	0.0178	<0.001	<0.0005	<0.001	3.23	0.202	0.0026	0.114	<0.0005	1.51	0.928	8.61	19.4	1.6	3.37	<0.0005	<0.0005	<0.0005	0.124	25	2.56	44.4	66.7
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.35	1.4	<0.02	<0.02	<0.02	1.16	<0.02	8.24	<0.02	1.71	0.08	<0.05	<0.02	<0.02	<0.02	<0.01	0.87	<0.01	14.8
	17/12/2018	<0.020	0.03	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.908	0.07	<0.0200	<0.0200	<0.0200	0.408	0.384	2.56	8.28	0.52	0.636	<0.0500	<0.0200	<0.0200	0.042	11.8	1.1	20.1	26.7
	14/10/2019	<0.001	0.017	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0058	<0.001	<0.0005	<0.001	0.538	0.08	0.0016	0.0169	<0.0005	0.171	0.23	1.18	4.4	0.243	0.593	<0.0005	<0.0005	<0.0005	0.0187	6.64	0.358	11	14.5
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	0.4	<0.02	<0.02	<0.02	0.02	0.02	0.13	0.34	0.05	0.05	<0.05	<0.02	<0.02	<0.02	0.91	0.05	1.25	2.04
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.2	<0.02	<0.02	<0.02	0.16	0.22	1.05	3	0.31	0.45	<0.05	<0.02	<0.02	<0.02	6.63	0.4	9.63	12.9
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.6	<0.02	<0.02	<0.02	0.14	0.16	0.92	2.36	0.28	0.36	<0.05	<0.02	<0.02	<0.02	5.06	0.29	7.42	10.6
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.1	0.8	<0.02	<0.02	<0.02	0.8	1	3.62	11.8	1.01	2.69	<0.05	<0.02	<0.02	0.08	18.1	1.51	29.9	43.5
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.35	<0.3	<0.04	<0.04	<0.04	0.09	0.15	0.87	2.59	0.14	0.38	<0.09	<0.04	<0.04	<0.04	4.05	0.21	6.64	8.83
	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.2	<0.02	<0.02	<0.02	0.12	0.13	0.69	2.01	0.15	0.33	<0.05	<0.02	<0.02	<0.02	3.75	0.15	5.76	7.66
	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.2	<0.02	<0.02	<0.02	0.07	0.05	0.3	0.73	0.13	0.11	<0.05	<0.02	<0.02	<0.02	1.54	0.08	2.27	3.15
	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.2	<0.02	<0.02	<0.02	0.09	0.08	0.47	1.43	0.19	0.2	<0.05	<0.02	<0.02	<0.02	2.7	0.13	4.13	5.77
	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	0.22	<0.05	0.04	<0.05	<0.02	<0.02	<0.02	0.6	0.03	0.82	1.04
	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	0.1	<0.02	<0.02	<0.02	0.08	0.1	0.45	1.31	0.14	0.19	<0.05	<0.02	<0.02	<0.02	4.48	0.16	5.79	7.21
	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.22	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.51	1.16	0.15	0.17	<0.05	<0.02	<0.02	<0.02	3.05	0.16	4.21	5.81
	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	0.1	<0.02	<0.02	<0.02	0.09	0.06	0.39	0.76	0.16	0.12	<0.05	<0.02	<0.02	<0.02	1.91	0.14	2.67	3.87
	11/02/2021	<0.05	0.92	0.44	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.15	0.1	<0.02	<0.02	<0.02	0.1	0.05	0.62	0.8	0.13	0.13	<0.05	<0.02	<0.02	<0.02	2.37	0.31	3.17	6.12
	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.27	0.03	0.04	<0.05	<0.02	<0.02	<0.02	1.04	0.04	1.31	1.6
	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.74	0.2	<0.02	<0.02	<0.02	0.31	0.29	1.6	3.58	0.33	0.71	<0.05	<0.02	<0.02	<0.02	4.74	0.62	8.32	13.1
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.1	<0.02	<0.02	<0.02	0.2	0.18	0.85	2.09	0.2	0.41	<0.05	<0.02	<0.02	<0.02	3.2	0.28	5.29	7.89
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.03	0.2	<0.02																

Table T4: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHPa	PFHPs	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFS and PFHS	Sum of PFAS		
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																	
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																	
Location ID	Sample Date																																
SW102	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	<0.02	<0.02	<0.02	<0.02	<0.04	0.05	0.42	1.3	0.09	0.26	<0.05	<0.02	<0.02	<0.02	<0.02	1.05	0.04	2.35	3.54
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.39	1.46	0.09	0.25	<0.05	<0.02	<0.02	<0.02	<0.02	0.88	0.04	2.34	3.48
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.41	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.06	0.59	2.06	0.12	0.34	<0.05	<0.02	<0.02	<0.02	<0.02	0.84	0.06	2.9	4.54
	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.51	0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.09	0.73	2.77	0.16	0.43	<0.05	<0.02	<0.02	<0.02	<0.02	1.1	0.07	3.87	6.03
	Off-Base - Bohle River/Louisa Creek/Town Common Catchment																																
SW017	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	0.02	0.24	0.29	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.048	0.0045	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0099	0.0033	0.0187	0.0533	
	11/12/2018	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0113	<0.002	0.0007	<0.0005	<0.0005	0.0048	<0.0005	0.0045	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0075	0.0155	0.173	0.285	
	9/05/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0188	<0.002	0.0017	<0.0005	<0.0005	0.0162	0.003	0.0248	0.0979	0.0127	0.0128	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.075	0.0256	0.252	0.392	
	24/10/2019	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0272	<0.002	0.0018	<0.0005	<0.0005	0.0119	0.0041	0.0325	0.136	0.0183	0.0129	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	0.116	0.0256	0.252	0.392	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.01	0.18	0.21	
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	0.02	0.19	0.23	
	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	11/02/2021	<0.05	0.14	0.08	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	0.03	0.02	0.33	
	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.02	0.2	0.29	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	0.02	0.18	0.26	
	26/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	27/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	28/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	29/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
	30/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.1	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	0.01	0.11	0.12	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.02	0.02	

Table T4: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																
Location ID	Sample Date																															
Off-Base - Mundy Creek Catchment																																
SW108	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0428	<0.002	<0.0005	<0.0005	<0.0005	0.0058	0.0081	0.052	0.175	0.0117	0.0353	<0.0005	<0.0005	<0.0005	<0.0005	0.16	0.0097	0.335	0.5
	6/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0108	<0.002	<0.0005	<0.0005	<0.0005	0.001	0.0016	0.0048	0.038	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	0.001	0.154	0.0012	0.192	0.215
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0476	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0039	0.0587	0.204	<0.0005	0.055	<0.0005	<0.0005	<0.0005	0.0929	0.0052	0.297	0.471	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0209	<0.002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0234	0.0237	<0.0005	0.0059	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0257	0.0766	
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.14	0.19	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.3	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.03	
	27/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.11	0.11	
	28/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.08	0.08	
	29/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.1	0.1	
	30/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.56	0.59	
	31/12/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.16	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.54	0.59	
	9/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.11	0.14	
	10/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.16	0.65	<0.03	0.08	<0.05	<0.02	<0.02	0.64	0.03	1.29	1.67	
	11/02/2021	<0.05	<0.19	<0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.21	0.63	0.03	0.08	<0.05	<0.02	<0.02	0.66	0.07	1.29	1.81	
	12/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.15	0.48	0.03	0.07	<0.05	<0.02	<0.02	0.53	0.02	1.01	1.38	
	13/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.1	0.55	0.03	0.07	<0.05	<0.02	<0.02	0.46	0.02	1.01	1.34	
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.22	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.38	1.04	0.06	0.16	<0.05	<0.02	<0.02	0.28	0.03	1.32	2.22	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.06	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.22	
	26/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	27/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.36	0.36	
	28/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.34	0.34	
	29/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.53	0.57	
	30/01/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.35	0.37	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.09	0.11	
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.11	0.15	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.18	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.29	1.04	0.05	0.15	<0.05	<0.02	<0.02	0.6	0.04	1.64	2.41
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.23	<0.1	<0.02	<0.02	<0.02	0.03	0.05	0.35	1.38	0.06	0.2	<0.05	<0.02	<0.02	0.81	0.05	2.19	3.16	
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.29	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.48	1.66	0.07	0.25	<0.05	<0.02	<0.02	0.88	0.05	2.54	3.77		
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.36	<0.1	<0.02	<0.02	<0.02	0.04	0.06	0.56	2.05	0.1	0.33	<0.05	<0.02	<0.02	1.06	0.06	3.11	4.62		
22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.43	<0.1	<0.02	<0.02	<0.02	0.05	0.08	0.56	2.07	0.09	0.37	<0.05	<0.02	<0.02	1.1	0.08	3.17	4.83		
SW109	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	&																	

Table T4: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOs and PFHxS	Sum of PFAS		
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Freshwater and Marine Water 95% Species Protection (HEPA, 2020)																																	
PFAS NEMP - Recreational Use - Surface Water (HEPA, 2020)																																	
Location ID	Sample Date																																
SW208	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0428	<0.002	<0.0005	<0.0005	<0.0005	0.0148	0.0128	0.0681	0.191	0.0171	0.0367	<0.0005	<0.0005	<0.0005	0.0013	0.368	0.027	0.559	0.78
	12/12/2018	<0.001	0.005	0.004	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0646	<0.002	0.0019	0.0021	<0.0005	0.0098	0.012	0.0892	0.249	0.0232	0.0376	<0.0005	<0.0005	0.0005	0.003	0.356	0.0158	0.605	0.874
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0612	<0.002	<0.0005	<0.0005	<0.0005	0.0195	0.0151	0.124	0.239	0.0057	0.0597	<0.0005	<0.0005	<0.0005	0.0015	0.336	0.038	0.575	0.9
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0029	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0021	0.0032	0.0111	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	0.0248	0.0018	0.0359	0.0478	
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.29	0.6	0.05	0.1	<0.05	<0.02	<0.02	<0.02	0.84	0.07	1.44	2.15	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.29	0.6	0.05	0.1	<0.05	<0.02	<0.02	<0.02	0.84	0.07	1.44	2.15	
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.02	0.19	0.33	0.04	0.07	<0.05	<0.02	<0.02	<0.02	0.64	0.04	0.97	1.44	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.1	<0.01	0.18	0.21		
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.14	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.28	0.02	0.42	0.51		
	14/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
	22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.1		
SW209	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.12	0.39	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.27	0.01	0.66	0.92		
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.34	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.1		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.24	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.52	0.01	0.76	0.85		
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	0.16	0.23		
Off-Base - Three Mile Creek Catchment																																	
SW107	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0822	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613	0.983	
	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.0766	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574	0.794	
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.10	<0.02	<0.02	<0.02	<0.02	0.13	0.43	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.15	<0.02	0.58	0.88		
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.3	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.21	0.01	0.51	0.68		
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.15	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.33	<0.04	0.16	<0.05	<0.02	<0.02	0.4	0.04	1.73	2.3		
3/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.41	<0.1	<0.02	<0.02	<0.02	0.03	0.07	0.59	2.29	0.09	0.38	<0.05	<0.02	<0.02	1.16	0.07	3.45	5.09			
SW210	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0085	<0.002	<0.0005	<0.0005	<0.0005	0.0023	0.0012	0.0081	0.0383	0.0036	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0381	0.0028	0.0764	0.108	
	4/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0058	<0.0005	0.0068	0.0075	
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0009	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.004	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0059	0.0082		
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0042	0.0047		
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0																	

	Inorganics													Dissolved Major Cations					
	pH (Lab)	Total dissolved solids	Total suspended solids	Dissolved Organic Carbon	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Sulfate as SO4 - Turbidimetric (Filtered)	Chloride	Fluoride	Anions Total	Ionic Balance	Cations Total	Sodium (Filtered)	Calcium (Filtered)	Magnesium (Filtered)	Potassium (Filtered)	
LOR	pH Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	%	meq/L	mg/L	mg/L	mg/L	mg/L	
LOR	0.01	10	5	1	1	1	1000	1	1	1	0.1	0.01	0.01	0.01	1	1	1	1	
Location Code	Sampled Date																		
SW121	27/12/2020	7.14	130	<5	20	32	<1	<1000	32	5	15	<0.1	1.17	- *	1.39	12	11	3	3
	28/12/2020	7.15	118	<5	21	29	<1	<1000	29	6	16	<0.1	1.16	-	1.44	12	12	3	3
	29/12/2020	6.96	256	<5	23	44	<1	<1000	44	15	66	<0.1	3.05	3.66	3.28	32	26	6	4
	30/12/2020	6.96	238	<5	20	55	<1	<1000	55	19	71	0.1	3.5	4.01	3.79	39	30	6	4
	31/12/2020	-	175	<5	15	61	<1	<1000	61	14	30	0.1	2.36	-	2.82	25	26	4	4
	9/02/2021	-^	-	73	23	77	<1	<1	77	18	39	0.2	3.01	2.82	3.19	44	17	3	7
	10/02/2021	-	-	15	24	73	<1	<1	73	9	30	0.2	2.49	-	2.83	31	20	4	6
	11/02/2021	-	-	<5	10	35	<1	<1	35	5	15	<0.1	1.23	-	1.3	14	9	2	3
	12/02/2021	-	-	<5	12	55	<1	<1	55	6	22	0.1	1.84	-	2.03	22	15	3	3
13/02/2021	-	-	8	16	108	<1	<1	108	10	62	0.2	4.11	0.33	4.09	47	29	6	4	
SW116	27/12/2020	6.95	639	20	8	16	<1	<1000	16	66	329	0.1	11	3.78	10.2	170	17	21	8
	28/12/2020	7.04	627	16	9	15	<1	<1000	15	66	323	<0.1	10.8	3.74	10	168	17	20	8
	29/12/2020	6.71	364	31	8	16	<1	<1000	16	38	153	<0.1	5.43	2.99	5.11	80	12	11	5
	30/12/2020	7.05	453	14	8	27	<1	<1000	27	44	220	0.1	7.66	4.02	7.07	113	17	14	6
	31/12/2020	-	283	19	7	23	<1	<1000	23	32	121	<0.1	4.54	1.63	4.39	69	11	9	4
	9/02/2021	-	-	43	8	20	<1	<1	20	60	339	<0.1	11.2	6.95	9.75	158	18	21	10
	10/02/2021	-	-	22	5	97	<1	<1	97	2010	14100	0.7	442	4.21	480	8530	333	1030	311
	11/02/2021	-	-	8	7	122	<1	<1	122	1600	11800	0.7	369	0.72	374	6660	252	795	246
	12/02/2021	-	-	46	11	66	<1	<1	66	168	1110	0.2	36.1	2.84	38.2	666	47	77	23
13/02/2021	-	-	<5	8	61	<1	<1	61	89	610	0.2	20.3	4.68	18.5	313	30	37	12	
SW127	27/12/2020	7.04	78	13	8	16	<1	<1000	16	3	16	0.2	0.83	-	1.03	13	5	2	2
	28/12/2020	7.08	92	14	8	17	<1	<1000	17	3	16	<0.1	0.85	-	0.99	12	5	2	2
	29/12/2020	6.76	79	26	7	16	<1	<1000	16	3	10	<0.1	0.66	-	0.81	8	5	2	2
	30/12/2020	6.88	76	11	8	22	<1	<1000	22	2	10	<0.1	0.76	-	0.86	8	6	2	2
	31/12/2020	-	75	<5	6	26	<1	<1000	26	2	12	<0.1	0.9	-	1	10	7	2	2
	9/02/2021	-	-	10	9	31	<1	<1	31	5	19	<0.1	1.26	-	1.32	15	8	2	4
	10/02/2021	-	-	15	10	52	<1	<1	52	9	52	<0.1	2.69	-	2.92	37	16	5	4
	11/02/2021	-	-	6	5	11	<1	<1	11	1	13	<0.1	0.61	-	0.59	9	3	<1	2
	12/02/2021	-	-	<5	9	75	<1	<1	75	8	42	0.2	2.85	-	3.03	36	19	6	1
13/02/2021	-	-	<5	8	84	<1	<1	84	8	89	0.2	4.36	1.67	4.21	53	24	8	2	
SW129	27/12/2020	7.72	4880	6	13	102	<1	<1000	102	351	2840	0.4	89.4	3.38	83.6	1460	85	176	54
	28/12/2020	7.7	4800	6	13	102	<1	<1000	102	352	2840	0.4	89.5	2.89	84.4	1470	86	180	55
	29/12/2020	7.17	344	62	9	38	<1	<1000	38	23	142	0.1	5.24	3.16	4.92	80	11	9	6
	30/12/2020	7.16	161	48	11	26	<1	<1000	26	8	38	<0.1	1.76	-	1.8	26	7	3	3
	31/12/2020	-	287	34	14	46	<1	<1000	46	22	98	0.1	4.14	1.44	4.26	65	13	8	5
	9/02/2021	-	-	37	9	34	<1	<1	34	4	26	<0.1	1.5	-	1.67	24	6	3	3
	10/02/2021	-	-	45	10	32	<1	<1	32	4	26	<0.1	1.46	-	1.66	24	6	3	3
	11/02/2021	-	-	82	9	67	<1	<1	67	37	274	0.1	9.84	8.9	8.23	134	16	17	8
	12/02/2021	-	-	35	8	54	<1	<1	54	9	54	0.1	2.79	-	2.83	43	10	5	2
13/02/2021	-	-	22	7	38	<1	<1	38	8	41	<0.1	2.08	-	2.04	29	8	4	2	

^ pH and total dissolved solids were mistakenly selected for analysis during the December 2020 sampling event and were therefore not selected for laboratory analysis in the February 2021 sampling event.

* Ionic balance cannot be calculated where concentrations of individual anions or cations are below the laboratory LOR.

Location ID	Sample Date	Sample Description	Odour
On-Base - Bohle River/Louisa Creek/Town Common Catchment			
SD013	29/04/2020	Silty SAND, fine grained, dark brown to black, saturated, highly organic (roots and decaying organic matter)	No odour
	9/09/2020	Sandy CLAY, low plasticity, fine sands, brown, dry, some organics	No odour
	22/04/2021	Silty CLAY, medium plasticity, brown, saturated, high organic content	Decaying organic odour
	7/10/2021	Silty SAND, dry, low to medium plasticity, soft, black, well graded fine sand component, with a trace of clay. With some organics (roots).	No odour
	13/04/2022	Sandy LOAM. Some fine gravels, minor silt, some organic content (plant material). No surface water present at time of sample collection.	No odour
	17/10/2022	Silty CLAY, dark brown, high organic material content, dry.	Earthy odour
	20/04/2023	Silty SAND, loose, black, fine subangular grained, black fine silt, saturated Wetland grass/organic matter present.	Organic
SD014	28/04/2020	Sandy GRAVEL, fine to coarse gravels, orange/black, saturated, with silt, and some organics (shells, root fibres)	Organic odour
	24/09/2020	Silty GRAVEL, dark brown/black, saturated, highly organic	Organic odour
	22/04/2021	Silty GRAVEL, coarse gravel, dark brown, saturated, low organic content	No odour
	7/10/2021	Gravelly sandy CLAY, saturated, medium to high plasticity, firm, dark grey to black, medium grained sands, medium to coarse sub-angular to angular gravel. With trace of organics and biota (roots, shells).	No odour
	13/04/2022	Sandy SILT. Dark red, minor organic content. Sampled from still, deep water beneath the bridge.	No odour
	7/10/2022	SAND, fine grained, poorly graded, wet.	No odour
	21/04/2023	CLAY, light brown, medium plasticity, firm, subangular gravel, saturated Moss/roots present.	No odour
SD016	29/04/2020	Silty CLAY, medium plasticity, black, saturated, highly organic	No odour
	7/09/2020	SILT, black, saturated, highly organic	No odour
	22/04/2021	Silty CLAY, low plasticity, grey to brown, saturated, high organic content	Decaying organic odour
	7/10/2021	Silty CLAY, saturated, medium to high plasticity, firm, dark grey, with trace of fine to medium grained sand.	No odour
	13/04/2022	Gravelly SAND. Poorly graded, dark brown, some biota and other plant material. Sampled from still water.	No odour
	17/10/2022	Silty CLAY, dark brown, high plasticity, with organic material.	No odour
	21/04/2023	SILT, loose, black, trace yellow sands, coarse, subangular, saturated Wetland grass present.	Strong Organic
SD019	30/04/2020	Clayey SAND, fine to medium grained, brown and black, wet	No odour
	10/09/2020	CLAY, medium plasticity, brown with grey/orange mottles, moist	No odour
	22/04/2021	Silty SAND, medium grained, loose, pale brown, moist	No odour
	7/10/2021	CLAY, moist, medium to high plasticity, soft, brown to grey with red to brown mottling, with a trace of fine grained sand. With organics (roots).	No odour
	21/04/2022	SAND. Fine grained, black, high organic content (biota, grass and roots). Sampled from very slowly flowing water.	No odour
	17/10/2022	CLAY, high plasticity, light brown, with traces of cobbles and gravels, with organic material (roots), dry.+	No odour
	21/04/2023	CLAY, light grey, medium plasticity, trace coarse sands, saturated Snails present.	No odour
SD112	29/04/2020	Silty CLAY, low plasticity, grey, saturated, with organic matter (root fibres)	No odour
	9/09/2020	Clayey SAND, fine to medium grained, grey with orange mottles, with organics (decaying organic matter and shells)	No odour
	16/04/2021	Sandy Gravelly SILT, non-plastic, grey, saturated, with medium sands and fine gravels, with some clay inclusions and high organic content (leaves and roots)	No odour
	7/10/2021	Sandy GRAVEL, saturated, medium to coarse, sub-angular to angular gravels, loose, black, coarse sands. With organics and biota (roots, shells).	No odour
	12/04/2022	Sandy SILT. Low plasticity, high organic content (rootlets).	No odour
	7/10/2022	Sandy CLAY, soft, light grey, low plasticity, fine to medium grained sand, well graded, wet.	No odour
	21/04/2023	CLAY, light grey, medium plasticity, firm, saturated Grass/roots present.	No odour
SD123	29/04/2020	Sandy CLAY, low plasticity, black, moist, with fine grained sands, highly organic	No odour
	10/09/2020	Gravelly SILT layer, then grey sandy CLAY, medium plasticity, fine sands, saturated, some organics	No odour
	22/04/2021	Sandy CLAY, low plasticity, orange to brown, moist, medium grained sands, with a trace of coarse gravel, medium organic content	No odour
	7/10/2021	Sandy CLAY, saturated, medium plasticity, firm, dark brown to dark grey, well graded fine grained sand. With organics (roots, leaves).	No odour
	21/04/2022	Sandy CLAY. Surface gravel, poor plasticity. Sampled from stagnant pond.	No odour
	17/10/2022	Sandy CLAY, grey to brown, high plasticity, saturated. Sampled close to culvert.	No odour
	21/04/2023	CLAY, light grey, medium plasticity, subangular pebbles	No odour
SD125	27/04/2020	Silty CLAY, low plasticity, black, saturated, highly organic	No odour
	7/09/2020	Silty CLAY, dark grey-black, saturated, highly organic	No odour
	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine to coarse gravels, low organic content	No odour
	7/10/2021	Silty CLAY, dry, medium to high plasticity, soft, dark brown. With trace of organics (roots).	No odour
	13/04/2022	Silty CLAY. Medium plasticity, minor organic material (plant material). Sampled from still water.	No odour
	17/10/2022	CLAY, light and dark brown, traces of gravel, trace organic material, dry. Sampled away from surface water due to restricted access.	No odour
	21/04/2023	Sandy CLAY, dark grey, low plasticity, trace coarse sands, saturated Algae present.	Moderate Organic
SD126	29/04/2020	Gravelly CLAY, medium plasticity, brown with orange/black/grey/brown mottle, fine to medium sized gravels, moist, highly organic	No odour
	9/09/2020	CLAY, low to medium plasticity, black to grey, moist, with medium sized gravels and organics (shells)	No odour
	22/04/2021	Gravelly SILT, non-plastic, dark brown, saturated, fine gravels, high organic content	Organic odour
	7/10/2021	CLAY, wet, high plasticity, firm, brown to dark grey, with a trace of coarse grained sand and fine angular gravels. Highly organic (roots, grass).	No odour
	13/04/2022	Silty CLAY. Low plasticity, brown, high organic content (rootlets). Sampled from lake.	No odour
	19/10/2022	NOT SAMPLED. Surface too rocky. No accessible sediment for sample.	No odour
	20/04/2023	Silty SAND, loose, brown, fine subangular grained, fine silt, saturated Wetland grass/organic matter present.	No odour

Location ID	Sample Date	Sample Description	Odour
SD131	29/04/2020	CLAY, high plasticity, dark brown, saturated, with organics	No odour
	9/09/2020	CLAY, medium plasticity, grey, saturated, with organics	No odour
	16/04/2021	Silty CLAY, low plasticity, dark grey, saturated, with high organic content (leaves and roots)	Slight sulfur odour
	7/10/2021	Silty CLAY, saturated, low to medium plasticity, firm, dark grey to black. Highly organic (roots, sticks, grass).	No odour
	13/04/2022	Clayey SILT. Medium plasticity, dark grey, high organic content (plant material). Sampled from still water.	Organic odour
	19/10/2022	CLAY, soft, dark brown/black, medium plasticity, with organic material (roots), wet.	No odour
	21/04/2023	CLAY, dark grey, high plasticity, firm, saturated Wetland grass present.	Moderate Organic
On-Base - Mundy Creek Catchment			
SD001	28/04/2020	SAND, medium to coarse grained, dark brown, saturated	No odour
	23/09/2020	SILT, low plasticity, dark brown, moist, highly organic	Organic odour
	22/04/2021	Silty GRAVEL, medium gravel, very loose, brown, saturated	No odour
	7/10/2021	SAND, saturated, well graded medium grained sand, soft, yellow to brown.	No odour
	13/04/2022	Sandy GRAVEL. Medium-coarse, poorly graded, reddish brown colour. Sampled from slowly flowing water in concrete culvert.	No odour
	17/10/2022	Gravelly CLAY, light brown, trace angular gravels and cobbles, dry. Sampled from top of culvert due to hard/compact surface.	No odour
	20/04/2023	Silty SAND, loose, yellow, coarse subangular grained, black fine silt, saturated Algae/roots present.	No odour
SD010	28/04/2020	Silty CLAY, low plasticity, dark brown, moist, with organics	No odour
	23/09/2020	Silty CLAY, medium plasticity, brown with orange mottles, some coarse gravels and organics (shells)	No odour
	22/04/2021	Sandy CLAY, high plasticity, orange to brown, saturated, with a trace of medium gravels and some organic content	Organic odour
	7/10/2021	Clayey SAND, saturated, well graded, fine grained, soft, dark grey, medium plasticity clay component. With some organics (roots).	No odour
	13/04/2022	Silty SAND. Well graded, black, high organic content. Sampled from stagnant water at end of culvert.	No odour
	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), saturated. Sampled from culvert.	No odour
	21/04/2023	Silty SAND, loose, yellow, coarse subangular, dark brown, fine, saturated Grass/Roots present.	No odour
SD106	25/04/2020	SILT, black saturated, with traces of clay. Floating slime (organic)	Putrid odour
	23/09/2020	Silty CLAY, low to medium plasticity, black with red/yellow mottles, saturated	Organic odour
	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
	13/04/2022	Silty CLAY. Medium plasticity, dark brown, high organic material (plant material). Sampled from shallow flowing water.	No odour
	17/10/2022	Silty CLAY, black, trace organic material. Sampled on bank under Mangroves.	Salty/Mangrove odour.
SD121	25/04/2020	SILT, black, highly organic, moist, overlaying CLAY, black with grey and brown/orange, low plasticity, moist, with a trace of organics	No odour
	23/09/2020	Sandy CLAY, dark brown, fine sands, dry, low organic content	No odour
	22/04/2021	Clayey SILT, non-plastic, dark brown, saturated, high organic content	Organic odour
	7/10/2021	Clayey SILT, moist, non-plastic, soft, dark brown. Highly organic (roots).	No odour
	13/04/2022	Sandy LOAM. Low plasticity, black. Some organic material (rootlets).	No odour
	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), moist. Sampled under grass.	No odour
	21/04/2023	SILT, loose, black, saturated Grass present.	Weak Organic
SD132	28/04/2020	SAND, medium to coarse grained, orange/brown, saturated, with some angular to sub angular medium gravels and organics	Decaying odour
	23/09/2020	Gravelly SAND, yellow/brown, some silt and organics (roots)	No odour
	22/04/2021	GRAVEL, fine to medium sub rounded to sub angular gravel, very loose, brown, saturated	No odour
	13/04/2022	SAND. Medium-coarse, poorly graded, minor silt content, reddish brown to black, minor organic content. Sampled from slowly flowing water in concrete culvert.	No odour
	17/10/2022	Silty SAND, dark brown, with organic materials (roots), dry. Sampled from culvert.	No odour
	21/04/2023	CLAY, medium plasticity, dark brown, loose, saturated Roots present.	Weak Organic
On-Base - Three Mile Creek Catchment			
SD102	29/04/2020	Silty SAND, medium to coarse grained, brown/black, saturated, with some fine to medium sized gravels and trace organics	No odour
	9/09/2020	SILT, black, saturated with some organics (shells)	Putrid odour
	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine gravels, low organic content	No odour
	7/10/2021	SILT, saturated, non-plastic, soft, dark grey to black. Highly organic (roots, leaves, decaying matter).	Strong organic/sulfurous odour
	13/04/2022	Clayey SILT. Medium plasticity, brown-black, trace organic content (plant material). Sampled from flowing concrete culvert.	No odour
	17/10/2022	Silty CLAY, black to brown, high plasticity, fine grained sand, with organic material. Sampled from culvert.	Fish/Marine odour.
	21/04/2023	SILT, loose, black, saturated Roots/Grass present.	Weak Organic

Location ID	Sample Date	Sample Description	Odour
Off-Base - Bohle River/Louisa Creek/Town Common Catchment			
SD017	8/09/2020	CLAY, high plasticity, light brown with orange mottles, moist	Decaying odour
	15/04/2021	Silty SAND, coarse grained, black, saturated, high organic content (roots)	No odour
	6/10/2021	SAND, saturated, medium to coarse grained, soft, black and yellow to orange.	No odour
	11/04/2022	Silty GRAVEL. Black, angular gravels, very stiff matrix, high organic component (grass). Sampled from marshy creek.	No odour
	7/10/2022	Sandy GRAVEL, medium to large grained, poorly graded, some organic material (roots and plants), wet. Area adjacent to sample recently mowed, lots of loose grass.	No odour
	21/04/2023	Silty SAND, loose, yellow, coarse grained, dark brown silt, saturated Grass/Roots present.	No odour
SD021	29/04/2020	Silty CLAY, grey and orange, saturated, with some fine to medium grained sands and organic matter (tree roots)	No odour
	8/09/2020	Silty SAND, fine to medium grained, black, saturated, with organic matter (tree roots)	Sulfur odour
	15/04/2021	Clayey SAND, coarse grained, dark grey, saturated, with organic matter (roots)	No odour
	6/10/2021	Top Layer: SAND, saturated, well graded medium grained, soft, grey. Bottom Layer: CLAY, saturated, medium plasticity, soft, grey, with trace of fine grained sand.	No odour
	11/04/2022	Sandy GRAVEL. Grey, sub-angular, high organic component (grass). Sampled from earthen drain.	No odour
	7/10/2022	Silty SAND, dark brown, low plasticity, fine grained, lots of organic material (roots), wet.	No odour
SD110	3/05/2023	Sandy CLAY, very soft, dark grey, low plasticity, fine grained sand, saturated Root matter present.	No odour
	17/04/2020	SILT, black, slightly organic with some fine grained sands, saturated	No odour
	21/09/2020	CLAY, medium plasticity, dark grey, saturated, with organics and very fine sand	Organic odour
	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	No odour
	12/04/2022	Sandy SILT. Black, well graded, low plasticity, high organic matter content.	Organic odour
SD111	14/10/2022	SAND, dark and light brown, fine grained, trace gravel. Sample taken from across surface water due to restricted access.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	17/04/2020	SILT, black, saturated, highly organic with some fine sands	Slight sulfur odour
	21/09/2020	Sandy CLAY, low plasticity, dark grey/brown, saturated, with organics and fine sand	Organic odour
	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	Compost/putrefied odour
SD120	13/04/2022	Sandy SILT. Brown, well graded, low plasticity, high organic matter content. Stagnant water present.	Organic odour
	14/10/2022	Silty CLAY, high plasticity, fine grained, trace organic material.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
	29/04/2020	Silty SAND, with clay, medium grained, grey/black, saturated, with organic matter (tree roots)	Slight sulfur odour
	9/09/2020	Clayey SAND, fine to medium grained, black with orange/grey mottles, firm and some organics	No odour
	15/04/2021	Sandy CLAY, low plasticity, black and brown, saturated, coarse subangular sands and some organics (roots)	No odour
SD127	6/10/2021	SAND, saturated, medium to coarse grained, soft, black, with a trace of silt. With trace of organics (roots).	No odour
	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, black with light brown mottle, some organic content (rootlets). Sampled from earthen drain.	No odour
	7/10/2022	Sandy GRAVEL, dark brown, medium grain, poorly graded, with organic material (roots and plants), moist.	No odour
	3/05/2023	Clayey SAND, very loose, dark grey, fine to medium subangular grained, saturated	No odour
	16/04/2020	Silty SAND, with some gravels, black, saturated, with some clay	No odour
	24/09/2020	Gravelly SAND, brown/black with orange and yellow sands/gravels, overlaying CLAY, medium plasticity, dark grey, saturated, some fine sands	-
SD129	6/10/2021	Clayey SILT, saturated, non-plastic, soft, black. Highly organic (roots, sticks, leaves).	No odour
	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, dark brown, some organic content (rootlets). Sampled from concrete culvert.	No odour
	7/10/2022	Silty SAND, soft, dark brown, poorly graded, with organic material (roots and leaves), wet.	No odour
	21/04/2023	SAND, black, loose, coarse, subangular pebbles, saturated	No odour
	16/04/2020	Dark brown SAND layer, then black CLAY, with organics, fine to medium grained sands, saturated, some medium gravels	No odour
	24/09/2020	Silty SAND, black, saturated, some angular gravels	No odour
SD201	20/04/2021	Clayey SAND, fine grained, grey with red to orange mottles, loose, saturated, with a trace of silt	No odour
	6/10/2021	CLAY, saturated, medium plasticity, soft, dark brown to black, with a trace of medium angular gravels. With trace of organics (leaves).	No odour
	11/04/2022	Sandy GRAVEL. Sub-angular pebbles. Sampled from Bohle River.	No odour
	7/10/2022	SAND, dark brown, medium grained, poorly graded, with silt, wet.	No odour
	21/04/2023	CLAY, loose, dark brown, low plasticity, saturated	No odour
	16/04/2020	SAND, fine to medium grained, brown and black, saturated, with some medium gravels	No odour
SD201	6/10/2021	SAND, saturated, well graded, fine to medium grained, soft, black.	Brackish odour
	11/04/2022	Silty SAND. Black with grey mottles.	Organic odour
	14/10/2022	SAND, pale yellow-brown, fine grained, with organic material, moist.	No odour
	3/05/2023	SAND, very loose, brown, fine to coarse grained, subangular, saturated	No odour

Table T6: Sediment Field Observations

Location ID	Sample Date	Sample Description	Odour
SD202	29/04/2020	Sandy CLAY, low plasticity, black, saturated, with medium grained sands	Sulfur odour
	8/09/2020	Silty Sandy CLAY, low plasticity, black and grey, saturated, with medium grained sands	No odour
	15/04/2021	Clayey SILT, low plasticity, grey, saturated, with trace of fine grained sands	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component. Mud crab observed (not in sample), slight biosheen on water surface.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity with trace sands, saturated. Sampled on bank under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
SD203	29/04/2020	Sandy CLAY, low plasticity, grey/black, saturated, with medium grained sands	No odour
	8/09/2020	SILT, black, firm, saturated, with fine to coarse grained sands	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with inclusions of high plasticity dark grey clay.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown with some black with orange mottling, high plasticity, trace sands, with organic material (roots), moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
SD204	29/04/2020	Sandy CLAY, low plasticity, grey/black, saturated, with medium grained sands	No odour
	8/09/2020	CLAY, medium plasticity, dark grey, moist, dense	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with shells	No odour
	29/09/2021	Silty CLAY, saturated, medium plasticity, soft, dark brown.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown and black, high plasticity, trace sands, with organic material (roots) moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
SD205	29/04/2020	Sandy silty CLAY, low plasticity, brown and black, saturated, with organic matter (root fibres)	No odour
	8/09/2020	CLAY, medium plasticity, grey with black/brown mottles, moist, some medium grained sands	No odour
	15/04/2021	Sandy CLAY, low plasticity, grey with orange inclusions, saturated, coarse grained sands, with silt	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with some inclusions of grey non-uniform medium grained sands.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, organic material (shells, biota), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
SD206	29/04/2020	CLAY, low plasticity, blue/grey, saturated, with fine grained sands and organic matter (root fibres)	No odour
	8/09/2020	Sandy CLAY, low to medium plasticity, dark grey, saturated, with medium grained sands	No odour
	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component.	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
SD207	29/04/2020	Sandy CLAY, low plasticity, black, saturated, with medium grained sands	No odour
	8/09/2020	CLAY, low to medium plasticity, brown with grey/orange mottles, moist, with medium grained sands and organic (shell fragments)	No odour
	15/04/2021	Sandy CLAY, medium plasticity, brown, saturated, with some fine angular gravels	No odour
	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, some organics (mangrove roots).	Coastal/mangrove mud odour
	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
	18/10/2022	Silty CLAY, soft, dark brown to black, high plasticity, with trace sands, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
	11/04/2023	CLAY, soft, grey, muddy with smaller to medium sized subangular, moist	No odour
Off-Base - Mundy Creek Catchment			
SD108	15/04/2020	SILT, black, saturated, some organics	No odour
	21/09/2020	Clayey SAND, fine to medium grained, light brown, saturated	No odour
	20/04/2021	Silty SAND, fine grained, grey to black, moist, loose, high organic content	Organic odour
	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to grey.	Organic/sulfurous odour
	17/04/2022	CLAY. High plasticity, brown colour, some minor coarse fragments. Sampled from ponded water in creek.	Organic odour
	14/10/2022	Silty CLAY, dark grey to dark brown, high plasticity, fine grained. Sampled on bank under Mangroves.	Organic (mud) odour.
	21/04/2023	SILT, black, loose, saturated, coarse yellow sands trace Leaves/Grass present.	Strong Organic
SD109	15/04/2020	SILT, black, some gravels, saturated	No odour
	21/09/2020	Clayey SAND, fine grained, dark grey, saturated	No odour
	20/04/2021	Silty SAND, fine grained, grey to brown, moist, loose, some broken shells and some medium to coarse subangular gravels	No odour
	6/10/2021	SAND, saturated, well graded, medium grained, soft, yellow.	No odour
	17/04/2022	SAND. Coarse, well graded, trace organics. Sampled from creek, under bridge.	No odour
	7/10/2022	SILT, brown, medium plasticity, with organic material (some marine shell), wet.	No odour
	21/04/2023	Sandy CLAY, dark grey/black, medium plasticity, firm, yellow coarse sands, saturated Shells present.	Moderate Organic

Table T6: Sediment Field Observations

Location ID	Sample Date	Sample Description	Odour
SD113	16/04/2020	Silty CLAY, black, saturated	Strong sulfur odour
	23/09/2020	CLAY, high plasticity, dark brown to black, moist, stiff, with organics	No odour
	6/05/2021	Silty CLAY, dark grey, saturated, with some organic content	Distinct sulfur odour
	6/10/2021	Clayey SAND, saturated, well graded, fine to medium grained, firm, black, medium plasticity clay component. With some organics (roots).	No odour
	17/04/2022	SAND. Medium-coarse, poorly graded, black, high organic content (plant material). Sampled from still pond covered in lilies.	No odour
	7/10/2022	Sandy CLAY, dark brown, fine grained, poorly graded, with organic materials (roots and algae), wet.	No odour
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
SD114	15/04/2020	Silty CLAY, black, saturated, some organics (tree roots)	Sulfur odour
	21/09/2020	Clayey SILT, low plasticity, dark grey to black, saturated, with organics (roots)	Sulfur odour
	22/04/2021	Sandy CLAY, high plasticity, soft, red, orange and brown mottles, saturated	No odour
	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to black. Highly organic (roots).	No odour
	11/04/2022	Silty CLAY. Dark brown, medium plasticity, minor organic content (plant material). Sampled from creek.	No odour
	7/10/2022	SILT, dark brown, low plasticity, wet.	No odour
	22/04/2023	CLAY, dark brown/black, high plasticity, firm, saturated Leaves/Roots present.	Moderate Organic
SD115	15/04/2020	Silty SAND, black, saturated, with organics	Slight sulfur odour
	21/09/2020	SILT, low plasticity, black, saturated, with organics	Sulfur odour
	16/04/2021	Silty CLAY, low plasticity, black, saturated, with some medium grained sands, some organic content (leaves)	No odour
	6/10/2021	CLAY, saturated, medium plasticity, firm, dark brown to black, with a trace of coarse angular gravels. With some organics (roots).	No odour
	17/04/2022	Sandy SILT. Dark brown colour. Minor organic material (roots). Sampled from earthen creek.	No odour
	7/10/2022	Silty CLAY, brown, medium plasticity, wet.	No odour
	21/04/2023	CLAY, dark brown/black, medium plasticity, saturated, loose Roots/Leaves present.	Moderate Organic
SD116	15/04/2020	Silty gravelly SAND, black, saturated, with organics	No odour
	21/09/2020	Gravelly CLAY, low plasticity, dark brown, saturated, some medium to coarse gravels	No odour
	20/04/2021	CLAY, high plasticity, brown with black mottles, saturated, firm, some coarse sands and coarse angular gravels, with a trace of organic content	Organic odour
	6/10/2021	Gravelly CLAY, saturated, medium to high plasticity, firm, dark brown to black, fine to coarse angular gravels.	No odour
	17/04/2022	Sandy SILT. Medium plasticity, dark brown, some organic content (roots, leaves). Sampled from turbid water beneath bridge.	Organic odour
	14/10/2022	Silty CLAY, brown, high plasticity, organic materials (some shell). Sampled on bank under Mangroves.	No odour
	21/04/2023	SAND, black, coarse, loose, saturated, subangular pebble inclusions Roots present.	Moderate Organic
SD117	16/04/2020	SILT, black, saturated, slightly organic	Decaying odour
	21/09/2020	Clayey SILT, low plasticity, black, saturated, organic matter	Sulfur odour
	16/04/2021	Silty Gravelly CLAY, low plasticity, black, saturated, fine to medium sub angular gravels, high organic content (leaves and sticks)	Distinct sulfur odour
	7/10/2021	Sandy SILT, saturated, non-plastic, soft, black, medium grained sand component. Highly organic (roots, sticks, leaves).	No odour
	11/04/2022	Silty SAND. Dark brown, low cohesion, sub-angular grains. Some organic matter present (leaves and roots). Sampled from concrete culvert.	Slight sulfurous odour
	7/10/2022	Silty SAND, dark brown, fine grained, poorly graded, organic material (some roots), dry.	No odour
	21/04/2023	SILT, loose, dark brown, saturated Leaves/Roots present.	No odour
SD118	16/04/2020	SILT, black, saturated, with organics	No odour
	21/09/2020	SILT, low plasticity, black, saturated, with organics	Sulfur odour
	16/04/2021	Sandy CLAY, low plasticity, black to grey, saturated, coarse sands, with fine layer of silt at surface, high organic content (leaves and sticks)	Decaying organic odour
	7/10/2021	Silty CLAY, saturated, low to medium plasticity, soft, dark brown to black. With some organics (roots, leaves).	Putrefied odour
	11/04/2022	Silty SAND. Dark grey-brown, moderately cohesive. Sampled from shallow creek.	Sulfurous odour
	7/10/2022	Silty CLAY, dark brown, fine grained, wet.	Salty/Organic odour
	21/04/2023	CLAY, light grey, moderate plasticity, saturated, loose Grass present.	No odour
SD119	16/04/2020	Gravelly SAND, medium to coarse sands, fine gravels brown, saturated, with some organics	No odour
	23/09/2020	Sandy CLAY, low plasticity, dark brown with black mottles, some fine to medium gravels and organics	Organic odour
	6/10/2021	Silty sandy GRAVEL, saturated, fine sub angular to angular gravels, soft, black, medium to coarse sands.	No odour
	11/04/2022	Sandy GRAVEL. Sub-angular, some organic content (algae). Sampled from concrete culvert.	No odour
	7/10/2022	SAND, pale brown, poorly graded, dry. Sampled above the concrete culvert airside.	No odour
	22/04/2023	SAND, dark brown, coarse, loose, subangular pebble inclusions, saturated Leaves present.	No odour

Table T6: Sediment Field Observations

Location ID	Sample Date	Sample Description	Odour
SD208	15/04/2020	Sandy SILT, black, saturated	No odour
	21/09/2020	Sandy Gravelly CLAY, low plasticity, dark grey to brown, saturated, some coarse sands, find to medium gravels and organics (roots)	No odour
	20/04/2021	CLAY, medium to high plasticity, black with red to orange mottles, moist, soft, with a trace of coarse angular sands and some organic content	Organic odour
	6/10/2021	CLAY, wet to saturated, medium to high plasticity, firm, dark brown to black.	No odour
	12/04/2022	Sandy CLAY. Brown, high plasticity, minor organic content	Organic odour
	14/10/2022	Silty CLAY, dark brown, high plasticity, trace sand and gravels. Sampled on bank under Mangroves.	No odour
	22/04/2023	SAND, light brown/yellow, coarse, subangular pebble inclusions, saturated Shells present.	No odour
SD209	25/04/2020	Silty CLAY, black, saturated, highly organic	Sulfur odour
	23/09/2020	Silty CLAY, high plasticity, black, saturated, with organics (roots)	No odour
	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
	13/04/2022	Silty CLAY. Medium plasticity, dark grey/brown colour, high organic content (plant material). Sampled from slow flowing creek.	No odour
	7/10/2022	SILT, dark brown to black, low plasticity, wet.	No odour
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SD107	15/04/2020	SILT, black, high levels of leaf and organic matter, saturated	Strong sulfur odour
	21/09/2020	CLAY, low plasticity, black, moist, traces of sands	No odour
	20/04/2021	SILT, non-plastic, black, moist, soft, high organic and decomposing organic content	Organic odour
	6/10/2021	Silty CLAY, dry, medium plasticity, hard, black. Dry salt crystals observed on surface.	Saline odour
	12/04/2022	Sandy SILT. Medium plasticity, well graded, brown, high organic content (leaves).	Organic odour
	14/10/2022	CLAY, black, high plasticity, moist. Animal prints across sediment surface.	Salty/Organic odour.
	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated Organic matter leaves/branches present.	No odour
SD210	15/04/2020	SILT with sand, black-brown, mangrove roots, saturated	No odour
	21/09/2020	Sandy CLAY, low plasticity, brown/orange, saturated, with some sands and gravels	No odour
	16/04/2021	Sandy Clayey SILT, non-plastic, dark grey, saturated, fine sands, with some organic content (leaves and roots)	No odour
	6/10/2021	Sandy CLAY, saturated, low to medium plasticity, soft, dark brown to black, fine grained sand component, with trace of coarse angular gravels.	Coastal/mangrove mud odour
	12/04/2022	Clayey SILT. Medium plasticity, well graded dark grey-brown, high organic content.	No odour
	14/10/2022	Silty CLAY, dark brown, high plasticity, trace organics.	No odour
	22/04/2023	CLAY, light grey/black, firm, high plasticity, saturated	Slight Organic

Table T7: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS					
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0008	0.0054	0.0024	0.0066	0.0454	0.058	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15					
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	0.0025	<0.0062	0.0178	0.022	<0.0025	<0.0025	0.0025	0.0089	0.0292	0.0651	0.173	0.0182	0.0194	<0.0062	<0.0025	0.003	0.0034	1.3	0.0169	1.47	1.68					
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0005	0.0027	0.001	<0.0002	0.003	<0.0002	0.0008	0.0018	0.007	0.0218	0.0018	0.0027	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.003	0.0034	1.3	0.0169		
	18/04/2018	-	-	-	-	-	-	-	0.004	-	-	-	0.0028	0.005	0.0027	0.0061	0.0005	0.0077	-	0.0304	0.0235	0.0069	0.0033	-	-	0.0007	0.0056	0.208	0.0214	0.23	0.322					
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.001	<0.0005	<0.0002	<0.0005	0.001	<0.001	0.0002	0.0048	0.0004	0.0002	0.0012	0.0022	0.0052	0.0006	0.0007	<0.0005	<0.0002	0.0004	<0.0002	0.0004	<0.0002	0.0004	<0.0002	0.0004	0.157	0.0017	0.162	0.176
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0014	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0019	<0.0002	0.0004	0.0011	0.0019	0.0087	0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0476	0.0005	0.0563	0.0661					
	18/10/2019	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0003	<0.0005	0.0099	<0.0005	0.0003	<0.0005	0.0115	0.005	0.0004	0.0048	0.0007	0.003	0.0111	0.0262	0.0809	0.0075	0.0122	<0.0005	0.0004	0.0003	0.0009	0.522	0.0076	0.603	0.706					
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	0.0008	<0.001	<0.0005	<0.0005	<0.0005	0.0016	0.0013	0.0138	<0.0005	0.0009	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0009	0.198	0.203				
	10/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0058	<0.0025	<0.001	<0.0025	0.0014	<0.005	0.0011	<0.001	<0.001	<0.001	0.0039	0.0025	0.022	<0.001	0.0012	<0.0025	<0.001	<0.001	<0.001	0.243	0.0017	0.265	0.283					
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0077	0.0004	0.0002	0.0027	0.0021	0.0168	0.0005	0.0011	<0.0005	<0.0002	0.0003	<0.0002	0.142	0.0012	0.159	0.178					
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0042	<0.0012	<0.0005	<0.0012	<0.0005	<0.0002	<0.0002	0.0049	<0.0005	<0.0005	0.0011	0.0012	0.005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	0.152	<0.0005	0.157	0.168					
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0039	<0.0012	<0.0005	<0.0012	<0.0005	<0.0002	<0.0002	<0.0048	<0.0005	<0.0005	<0.0005	0.0019	0.0086	<0.0005	0.0007	<0.0012	<0.0005	<0.0005	<0.0005	0.142	0.0006	0.151	0.158					
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0042	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0062	<0.0002	0.0005	<0.0002	0.0006	0.0012	0.0039	0.0002	0.0003	<0.0005	<0.0002	<0.0002	0.0532	0.0003	0.0571	0.0709						
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0005	<0.0013	0.0012	<0.0013	<0.0005	<0.0013	<0.0018	<0.002	<0.0005	<0.004	<0.0005	0.001	0.0033	0.0045	0.0225	0.0014	0.0021	<0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.291	0.0018	0.314	0.329				
	SD125	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0017	0.0175	0.0185	0.124	0.0022	0.0064	<0.0025	<0.0010	<0.0010	<0.0010	0.818	0.0056	0.942	1				
17/12/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0006	<0.0002	0.0002	0.0038	0.0032	0.0214	0.0003	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.147	0.0012	0.168	0.179					
1/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	0.0004	<0.0002	0.0006	0.0028	0.0062	0.0202	0.0011	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.109	0.0017	0.129	0.145					
15/10/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0048	<0.001	<0.0002	<0.0002	<0.0002	0.001	0.005	0.0159	0.0542	0.0027	0.005	<0.0005	<0.0002	<0.0002	0.224	0.0038	0.278	0.317						
27/04/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	0.0006	<0.002	<0.0005	<0.0005	<0.0005	0.001	0.0012	0.01	<0.0005	0.0006	<0.0012	<0.0005	<0.0005	<0.0005	0.088	<0.0005	0.098	0.101					
7/09/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	<0.0005	0.001	<0.002	0.0047	<0.0002	<0.0002	0.0002	0.0014	0.0028	0.0109	0.0007	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.306	0.0007	0.317	0.331					
22/04/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0005	<0.0002	0.0005	0.0019	0.0092	0.0248	0.0013	0.0025	<0.0005	<0.0002	<0.0002	0.0534	0.0013	0.0782	0.0971						
7/10/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.0012	<0.0005	<0.0012	0.0019	<0.002	<0.0005	0.0022	<0.0005	<0.0005	0.0015	0.0041	0.0162	0.0005	0.0019	<0.0012	<0.0005	<0.0005	<0.0005	0.155	<0.0005	0.171	0.184					
13/04/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0009	<0.002	0.0069	<0.0005	<0.0005	<0.0005	0.0031	0.0034	0.038	<0.0005	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	0.327	0.0013	0.365	0.382					
17/10/2022		<0.0049	<0.0049	<0.0049	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	0.258	0.038	<0.0049	<0.0049	0.0868	0.23	0.849	3.54	0.108	0.389	<0.0123	<0.0049	<0.0049	<0.0049	<0.0049	3.18	0.159	6.72	8.84					
12/12/2022		<0.0026	<0.0026	<0.0026	<0.0026	<0.0064	<0.0026	<0.0064	0.0127	<0.0064	<0.0026	<0.0064	0.0098	<0.013	0.0505	<0.0026	<0.0026	0.0029	0.0122	0.024	0.0931	0.0034	0.0093	<0.0064	<0.0026	<0.0026	<0.0026	2.31	0.0044	2.4	2.53					
21/04/2023		<0.0248	<0.0248	<0.0248	<0.0248	<0.0619	<0.0248	<0.0619	0.0971	<0.0619	<0.0248	<0.0619	0.056	<0.124	<0.0248	<0.0248	<0.0248	0.0411	0.0411	0.321	<0.0248	<0.0248	<0.0619	<0.0248	<0.0248	<0.0248	<0.0248	9.46	<0.0248	9.78	10					
SD126		6/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.00																					

Table T7: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS	
SD106	16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0022	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0074	0.0091	
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0022	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0706	<0.0002	0.0723	0.0729	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0022	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0633	0.0002	0.0655	0.0661	
	11/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0025	<0.0002	0.0025	<0.0005	<0.0002	<0.0002	<0.0002	0.0366	<0.0002	0.0391	0.0394	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0021	<0.0002	0.0021	<0.0005	<0.0002	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262	
SD121	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0022	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0091	<0.0002	0.0099	0.0099	
	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0022	<0.001	0.0008	0.0006	<0.0002	0.0002	0.0008	0.0007	0.0042	<0.0002	0.0003	<0.0005	<0.0002	0.0005	0.0004	0.103	0.0008	0.107	0.114	
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0042	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	0.0005	0.0004	0.0099	<0.0002	0.0099	0.0099
	18/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0042	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	0.0019	<0.0002	0.0019	0.0019	
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0042	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	0.0007	<0.0002	0.0107	0.0107		
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.002	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0042	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	0.0007	<0.0002	0.0083	0.0086		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.001	0.0002	0.0002	0.0004	0.0012	0.0044	0.0003	0.0005	<0.0005	<0.0002	<0.0002	0.0539	0.0006	0.0583	0.0636		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0003	0.0098	0.0008	<0.0002	0.0008	0.002	0.004	<0.0002	0.0003	<0.0005	0.0003	<0.0002	<0.0002	0.0857	<0.0002	0.0897	0.102	
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0049	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0415	<0.0002	0.0464	0.0482	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0032	<0.0002	<0.0004	<0.0005	<0.0002	<0.0002	0.0281	<0.0002	0.0313	0.0316		
21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0002	0.0007	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.0503	0.0005	0.0598	0.0656		
SD132	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.002	0.004	0.0003	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0152	0.0007	0.0192	0.0233	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0005	0.002	0.0052	0.0003	0.0013	<0.0005	<0.0002	<0.0002	0.0188	0.0009	0.024	0.0302		
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0009	0.0039	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	0.0129	0.0004	0.0168	0.0194		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0004	<0.0002	<0.0002	0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0087	0.0002	0.0096	0.0104		
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0005	0.0015	0.0048	0.0002	0.0007	<0.0005	<0.0002	<0.0002	0.025	0.0008	0.0298	0.0343		
On-Base - Three Mile Creek Catchment	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0086	<0.0002	0.0093	0.0093		
SD102	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0004	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0033	<0.001	<0.0004	<0.0024	0.0008	0.0013	0.0017	0.0074	0.0246	0.0016	0.0032	<0.0005	<0.0006	<0.0006	<0.0004	0.108	0.0034	0.133	0.155	
	13/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0033	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0013	0.0025	0.0378	<0.0002	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.0333	0.0003	0.0711	0.0803	
	11/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0017	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0192	<0.0002	0.0209	0.0209		
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	0.0013	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002							

Table T7: Historical Sediment PFAS Analytical Results

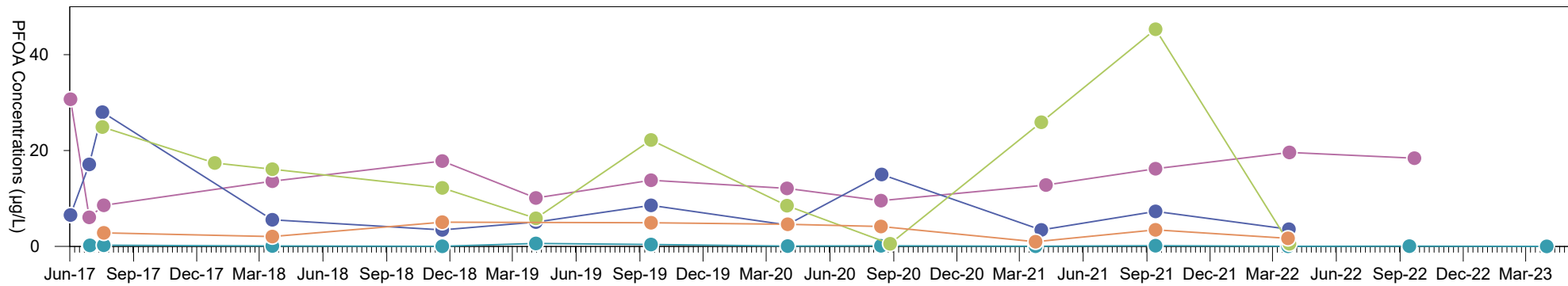
	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFHA	PFHs	PFPA	PFPS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHs	Sum of PFAS	
SD118	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0012	0.0052	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0171	0.0008	0.0223	0.0264
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0008	<0.0002	0.0003	0.0006	0.0013	0.006	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.047	0.001	0.053	0.058	
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.001	<0.0002	0.0005	<0.0002	0.0002	0.0002	0.0002	0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0094	<0.0002	0.011	0.0117
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0006	<0.0002	0.0003	0.0005	0.002	0.0067	0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0176	0.001	0.0243	0.031	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	0.005	<0.0002	0.0009	<0.0002	0.0007	0.0005	0.015	0.008	0.0041	0.0037	<0.0005	<0.0002	<0.0002	<0.0002	0.0444	0.0011	0.0524	0.0904	
	16/04/2020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.0032	0.0055	0.0157	0.0614	0.002	0.0072	<0.0025	<0.0010	<0.0010	<0.0010	0.232	0.0107	0.293	0.344
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	<0.0005	<0.0002	0.0008	<0.001	0.0011	<0.0002	0.0003	0.0016	0.0015	0.0078	0.0004	0.0007	<0.0005	<0.0002	<0.0002	0.0003	0.115	0.001	0.123	0.131			
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0004	<0.001	<0.0002	0.0004	<0.0002	0.0002	0.0003	0.0011	0.0027	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0002	0.0185	0.0004	0.0212	0.0248	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0016	<0.0005	<0.0002	0.0017	<0.001	<0.0002	0.0051	0.0005	0.0008	0.0023	0.0039	0.0157	0.0007	0.0022	<0.0005	0.0002	0.0002	0.0005	0.162	0.0021	0.178	0.2		
	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	<0.0005	<0.0002	0.0017	<0.001	0.0042	<0.0002	<0.0004	0.0004	0.0018	0.0033	0.0125	<0.0012	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.128	0.0016	0.14	0.156		
	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0016	<0.001	<0.0002	0.0042	<0.0002	<0.0004	0.0004	0.0011	0.0009	0.0085	<0.0004	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0778	0.0012	0.0863	0.0918	
21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.001	<0.0005	<0.0002	0.0036	<0.001	<0.0002	0.003	0.0005	0.0017	0.0041	0.0073	0.0286	0.0014	0.0039	<0.0005	0.0002	<0.0002	0.0004	0.254	0.0047	0.283	0.314			
16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0025	0.0016	0.0234	<0.0002	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.187	0.0008	0.21	0.218		
13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0017	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0035	<0.0002	0.052	0.062		
16/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0009	0.0033	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	0.0002	0.0215	0.0008	0.0248	0.0278		
23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0002	0.0037	<0.0002	0.0042	0.0042	
6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0016	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0004	0.0035	0.0077	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0058	0.0008	0.0135	0.0223		
11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0009	0.0035	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0244	0.0005	0.0279	0.0308		
7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.003	0.003		
22/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0006	0.0006		
SD208	14/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	0.0003	0.0121	0.0124	
	12/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0022	<0.0002	0.0022	0.0022	
	7/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0019	0.0019	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0028	<0.0002	0.0028	0.0028	
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005</								

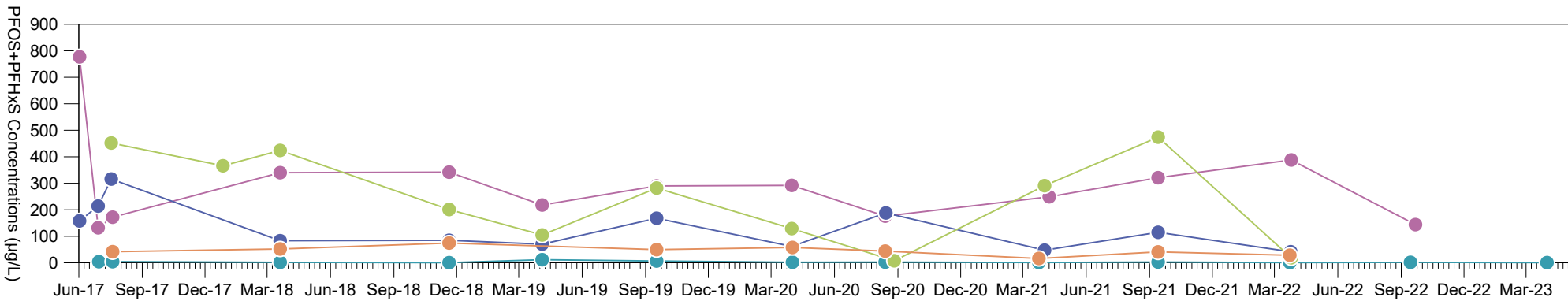
Appendix C

Graphs and Plots

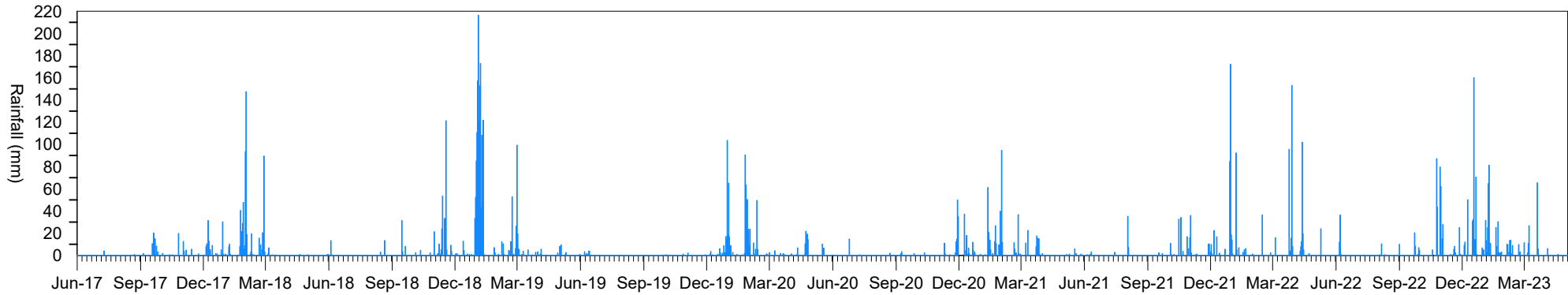
AECOM does not warrant the accuracy or completeness of information displayed in this chart and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.



Plot 1a - PFOA (µg/L)



Plot 1b - PFOS+PFHxS (µg/L)



Plot 1c - Daily Rainfall (mm)

PROJECT ID 60612487
 CREATED BY LJM
 APPROVED BY CJJ
 LAST MODIFIED 20/10/2023



LEGEND

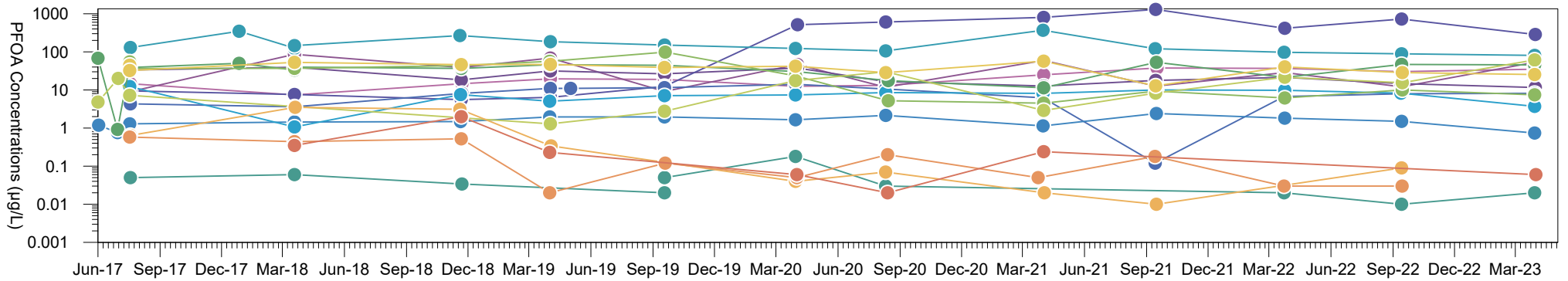
- MW013
- MW126
- MW116
- MW129
- MW118
- Daily Rainfall

**PFOA and PFOS+PFHxS Concentrations
 Sub-Management Area 1**

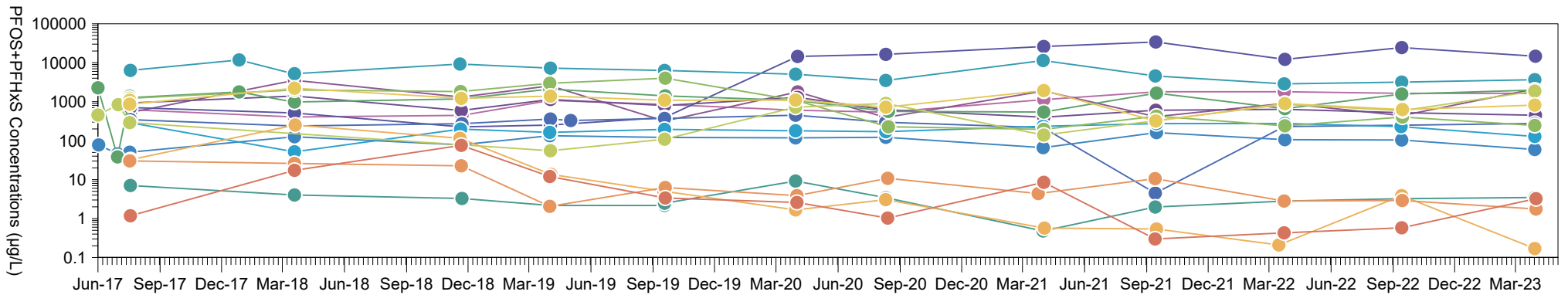
Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

Data sources: Department of Defence Esdat

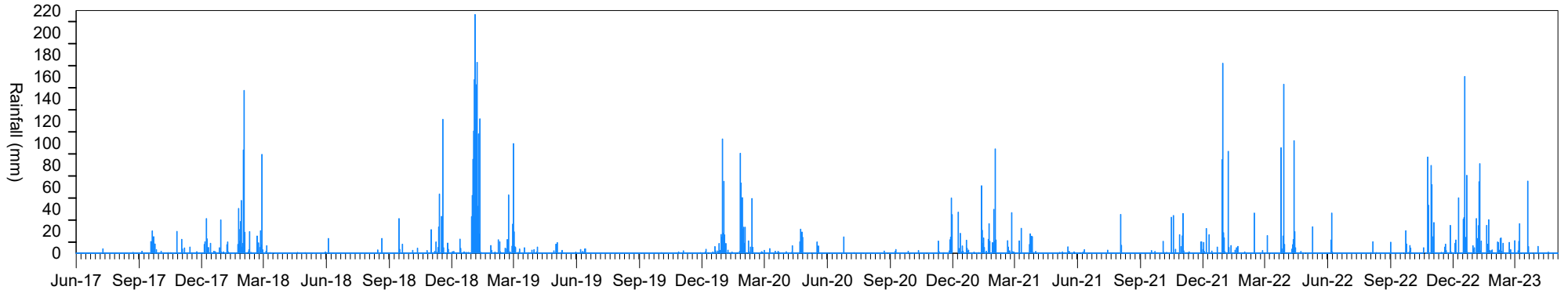
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Plot 2a - PFOA (µg/L)



Plot 2b - PFOS+PFHxS (µg/L)



Plot 2c - Daily Rainfall (mm)

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LEGEND	
—●— MW005	—●— MW055
—●— MW015	—●— MW081
—●— MW016	—●— MW090
—●— MW021	—●— MW109
—●— MW046	—●— MW110
—●— MW054	—●— MW138
—●— MW139	—●— MW246
—●— MW250	—●— MW251
■ Daily Rainfall	

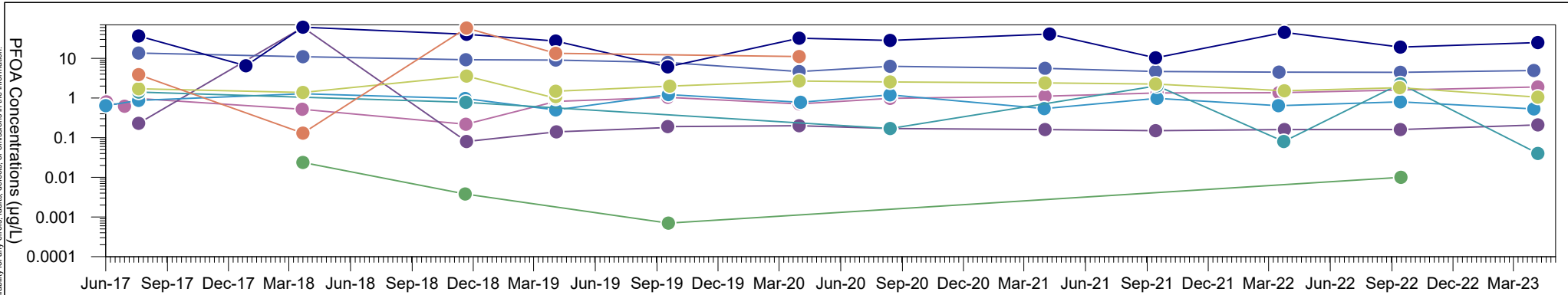
**PFOA and PFOS+PFHxS Concentrations
 Sub-Management Area 2**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

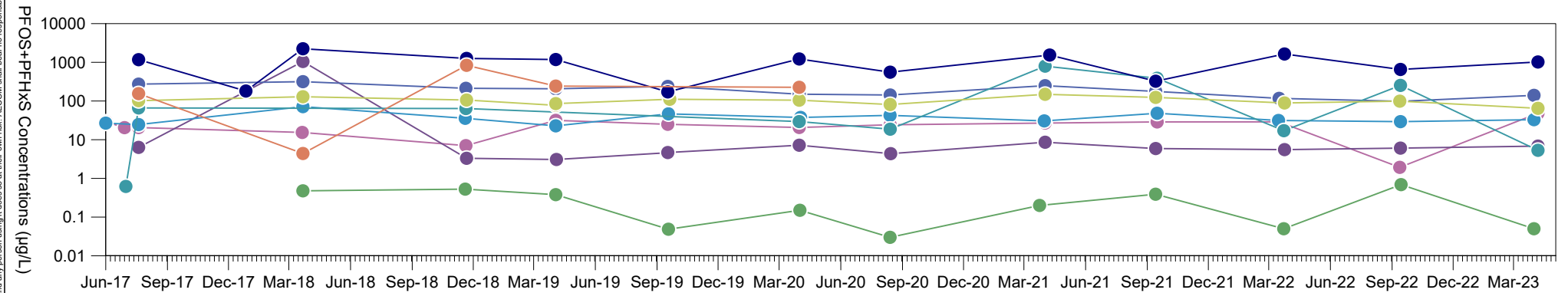
Data sources: Department of Defence Esdat

Plot
**2a to
 2c**

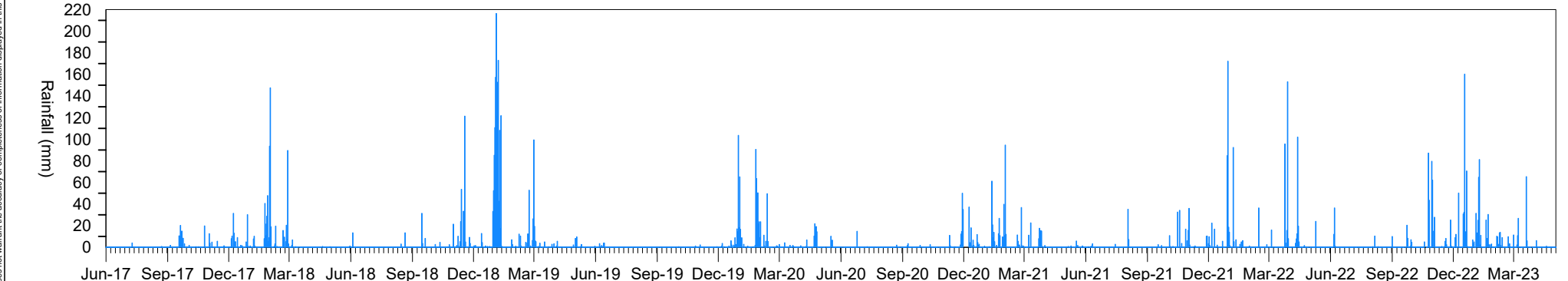
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Plot 3a - PFOA (µg/L)



Plot 3b - PFOS+PFHxS (µg/L)



Plot 3c - Daily Rainfall (mm)

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LEGEND

- MW009
- MW125
- MW248
- MW038
- MW142
- MW249
- MW043
- MW247
- MW114
- Daily Rainfall

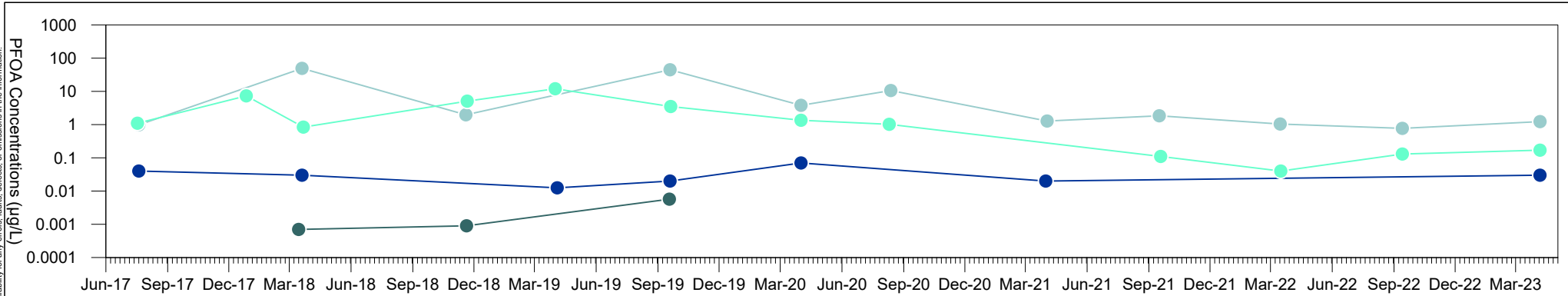
**PFOA and PFOS+PFHxS Concentrations
 Sub-Management Area 3**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

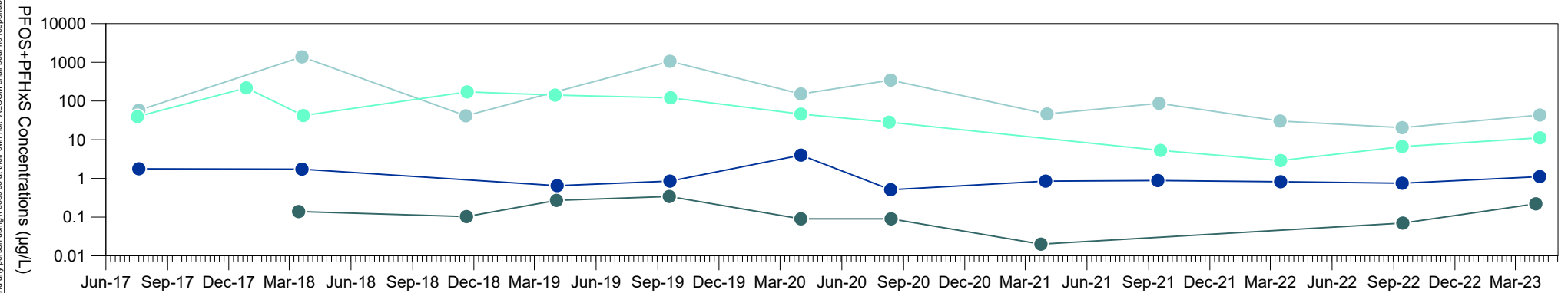
Plot
**3a to
 3c**

Data sources: Department of Defence Esdat

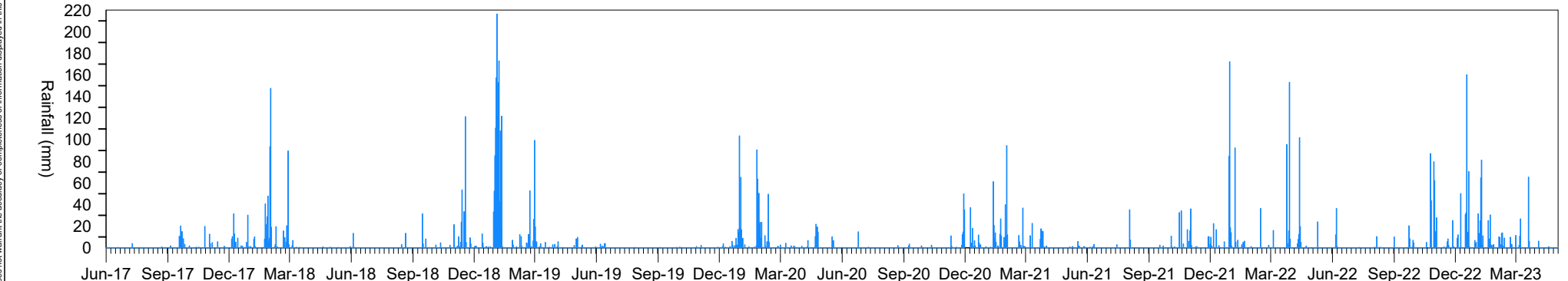
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Plot 4a - PFOA (µg/L)



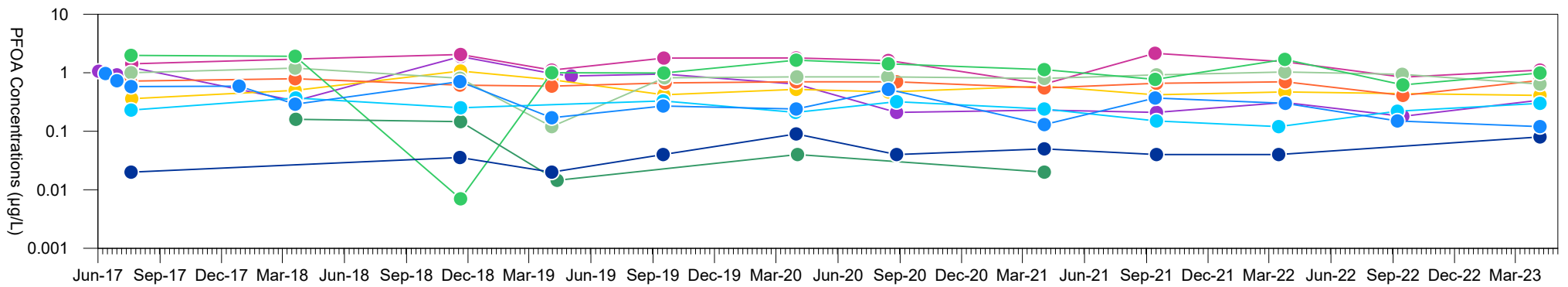
Plot 4b - PFOS+PFHxS (µg/L)



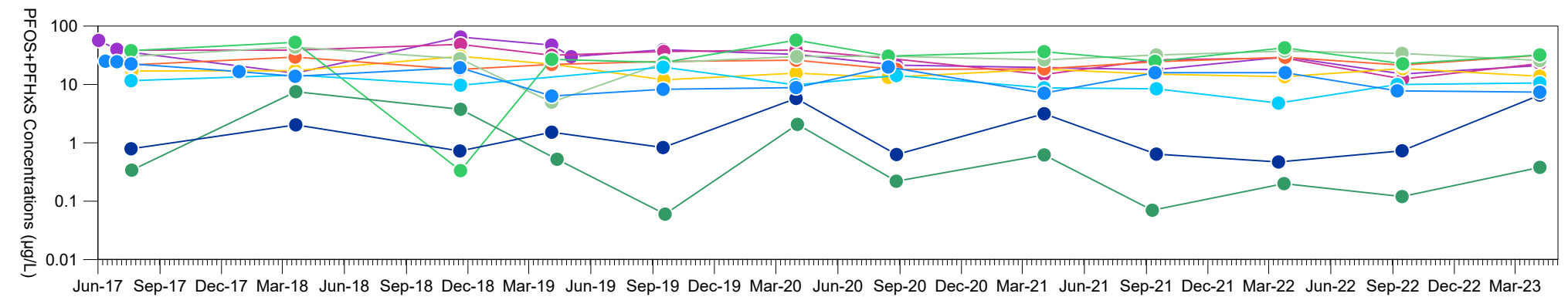
Plot 4c - Daily Rainfall (mm)

<p>PROJECT ID 60612487 CREATED BY LJM APPROVED BY CJJ LAST MODIFIED 20/10/2023</p>		<p>LEGEND</p> <ul style="list-style-type: none"> ■ Daily Rainfall ● MW136 ● MW244 ● MW140 ● MW243 	<p style="text-align: center;">PFOA and PFOS+PFHxS Concentrations Groundwater On-Base - Northern Section and Northwest of Runway 07/25</p> <p style="text-align: center;">Department of Defence <i>Ongoing Monitoring Interpretive Report (December 2020 - May 2023) PFAS OMP - RAAF Base Townsville</i></p>	<p>Plot 4a to 4c</p>
Data sources: Department of Defence Esdat				

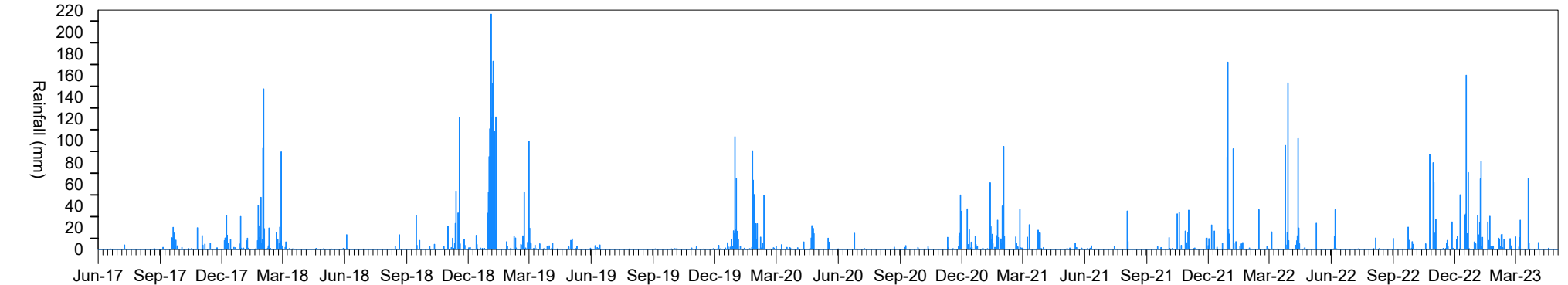
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Plot 5a - PFOA (µg/L)



Plot 5b - PFOS+PFHxS (µg/L)



Plot 5c - Daily Rainfall (mm)

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LEGEND	
■ Daily Rainfall	● MW061
● MW026	● MW063
● MW033	● MW120
● MW034	● MW222
	● MW223
	● MW224
	● MW232

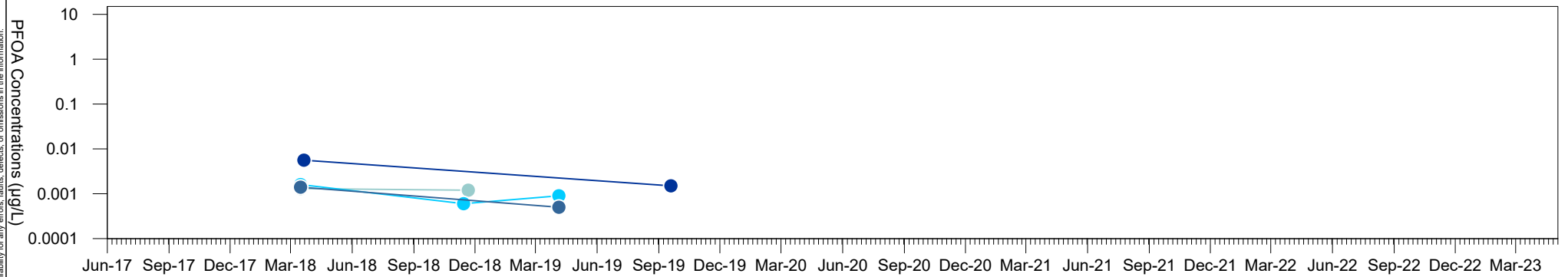
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - East and Southeast
 of Sub-Management Area One**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
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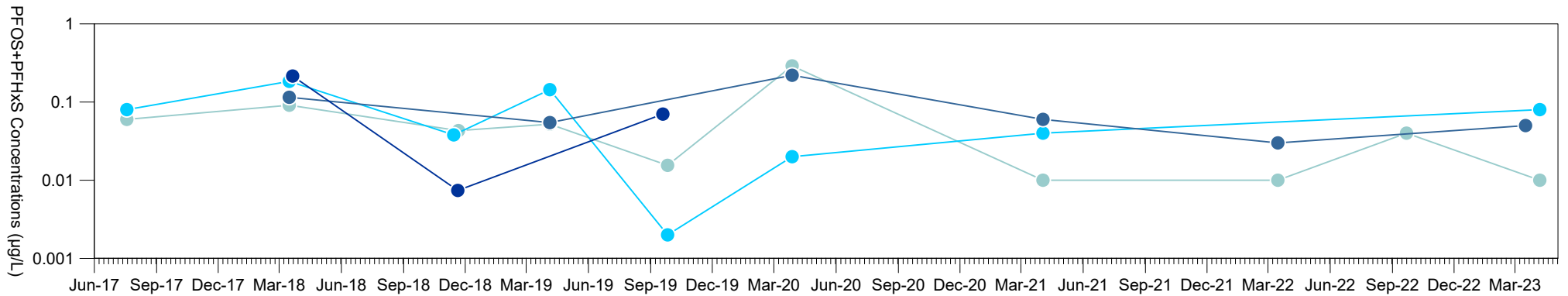
Plot
**5a to
 5c**

Data sources: Department of Defence Esdat

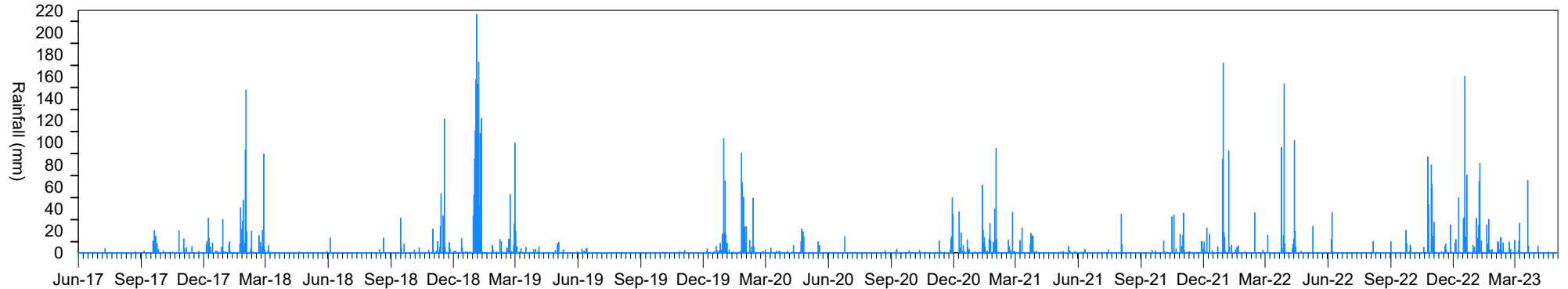
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Plot 6a - PFOA (µg/L)



Plot 6b - PFOS+PFHxS (µg/L)



Plot 6c - Daily Rainfall (mm)

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LEGEND

- Daily Rainfall
- MW227
- MW226
- MW228
- MW229

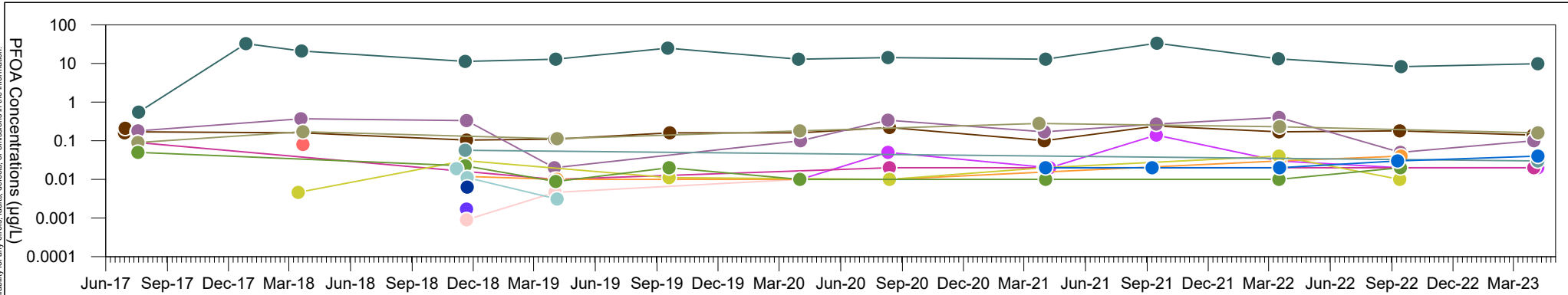
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - South of Ingham Rd**

Department of Defence
*Ongoing Monitoring Interpretive Report
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 PFAS OMP - RAAF Base Townsville

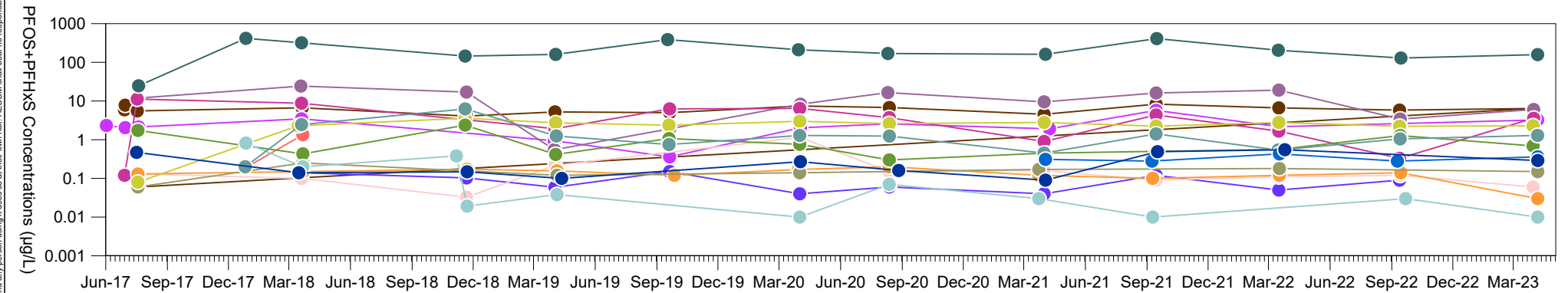
Plot
**6a to
 6c**

Data sources: Department of Defence Esdat

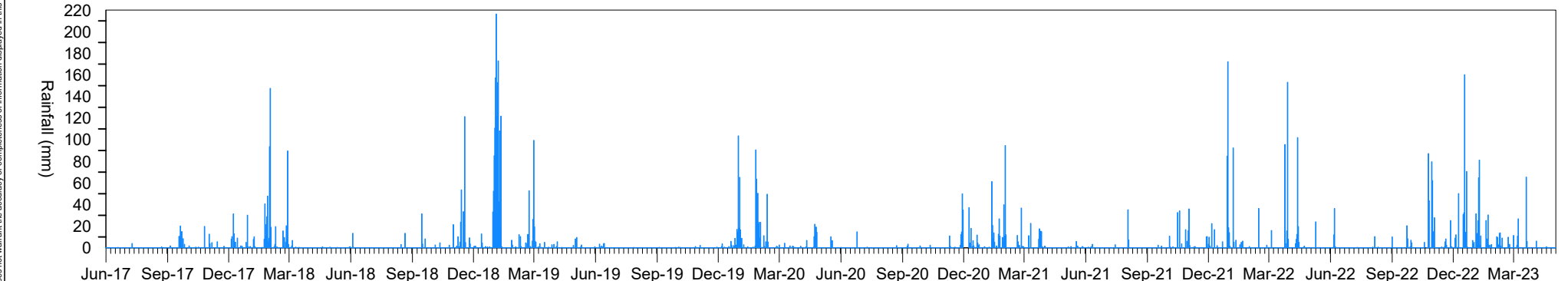
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Plot 7a - PFOA (µg/L)



Plot 7b - PFOS+PFHxS (µg/L)



Plot 7c - Daily Rainfall (mm)

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LEGEND

- Daily Rainfall
- MW002
- MW004
- MW056
- MW057
- MW122
- MW135
- MW230
- MW234
- MW235
- MW241
- MW242
- MW245
- MW255
- MW265
- MW300
- MW470

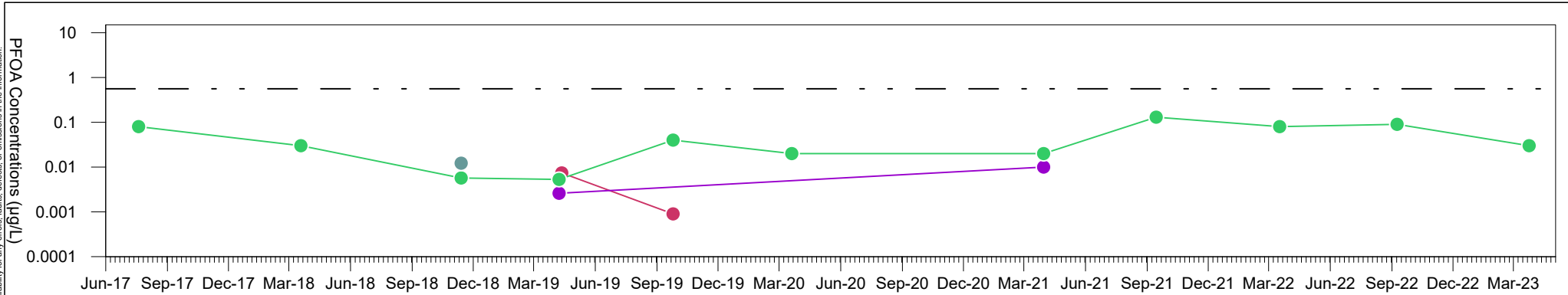
**PFOA and PFOS+PFHxS Concentrations
 Groundwater On-Base - Balance of Base Area**

Department of Defence
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 (December 2020 - May 2023)
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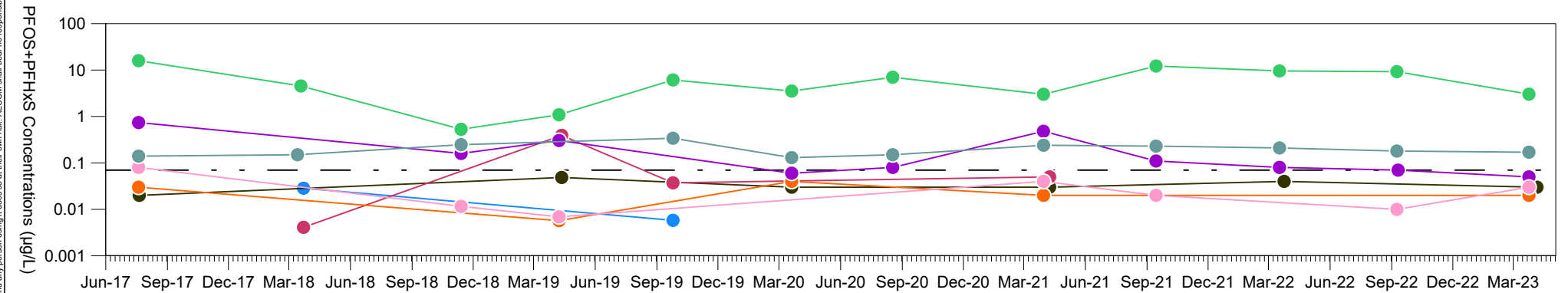
Plot
**7a to
 7c**

Data sources: Department of Defence Esdat

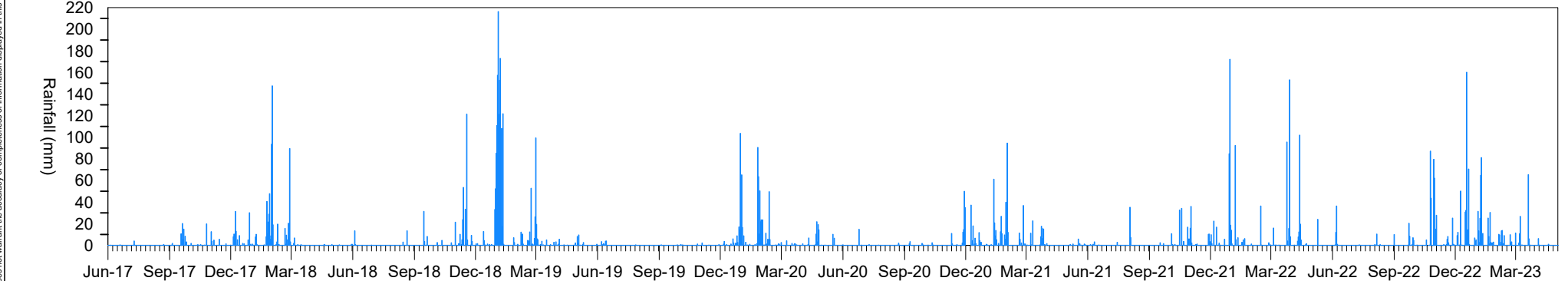
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Plot 8a - PFOA (µg/L)



Plot 8b - PFOS+PFHxS (µg/L)



Plot 8c - Daily Rainfall (mm)

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- LEGEND**
- Drinking Water Guideline (HEPA, 2020)
 - MW201
 - MW202
 - MW203
 - MW204
 - MW205
 - MW206
 - MW207
 - MW208
 - Daily Rainfall

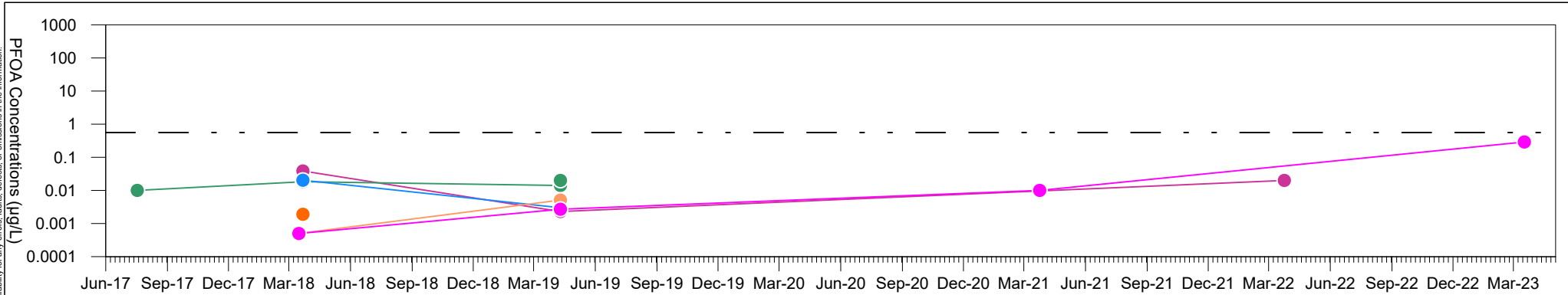
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-base - Town Common
 Conservation Park**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

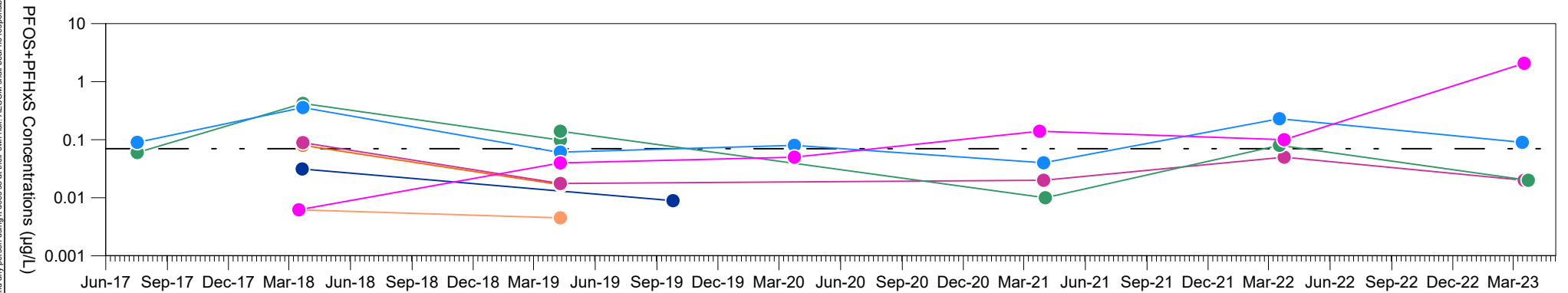
Plot
**8a to
 8c**

Data sources: Department of Defence Esdat

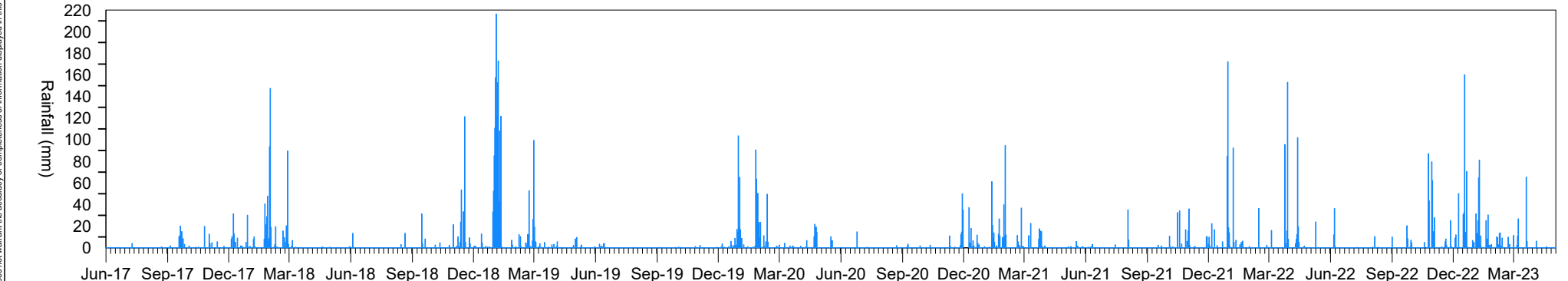
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Plot 9a - PFOA (µg/L)



Plot 9b - PFOS+PFHxS (µg/L)



Plot 9c - Daily Rainfall (mm)

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LEGEND	
—	Drinking Water Guideline (HEPA, 2020)
●	MW240
●	MW231
●	MW254
●	MW237
●	MW238
●	MW239
■	Daily Rainfall

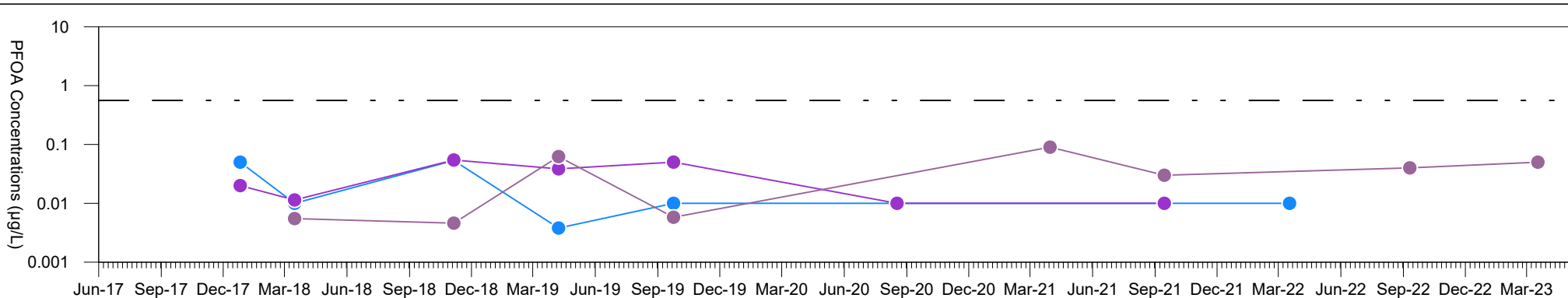
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-Base - Bohle River and
 Bohle Industrial Estate**

Department of Defence
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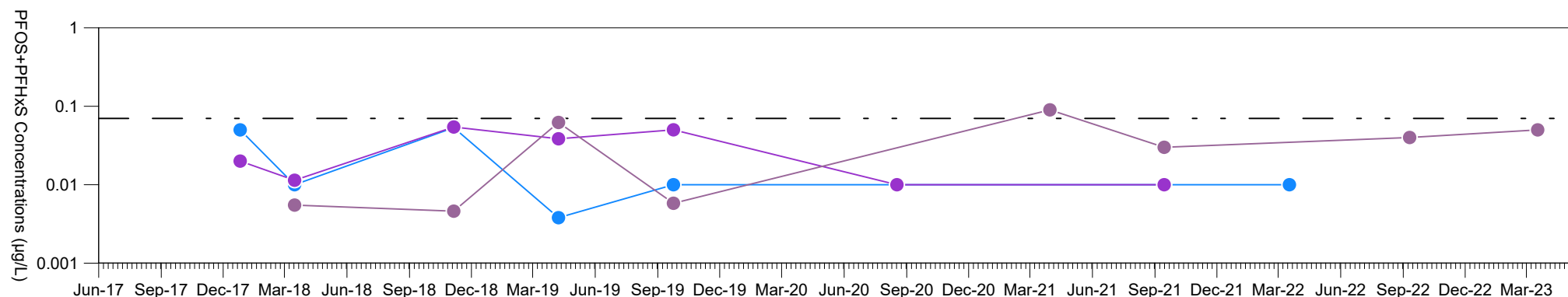
Plot
**9a to
 9c**

Data sources: Department of Defence Esdat

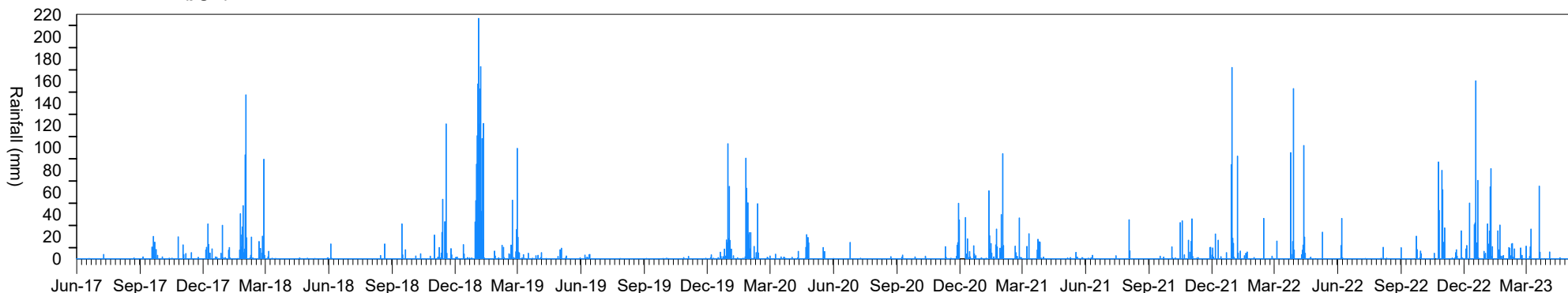
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Plot 10a - PFOA (µg/L)



Plot 10b - PFOS+PFHxS (µg/L)



Plot 10c - Daily Rainfall (mm)

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LEGEND

- Drinking Water Guideline (HEPA, 2020)
- Daily Rainfall
- MW233
- MW252
- MW253

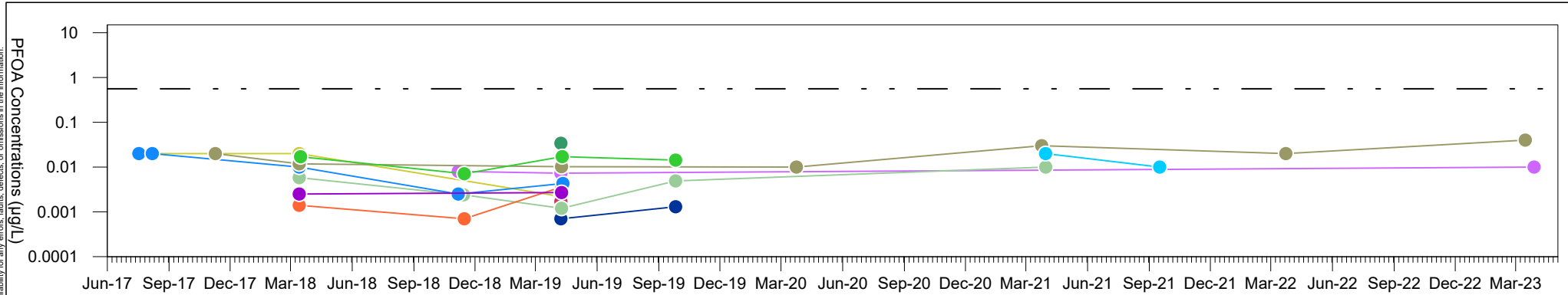
**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-Base - Pallarenda**

Department of Defence
*Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)*
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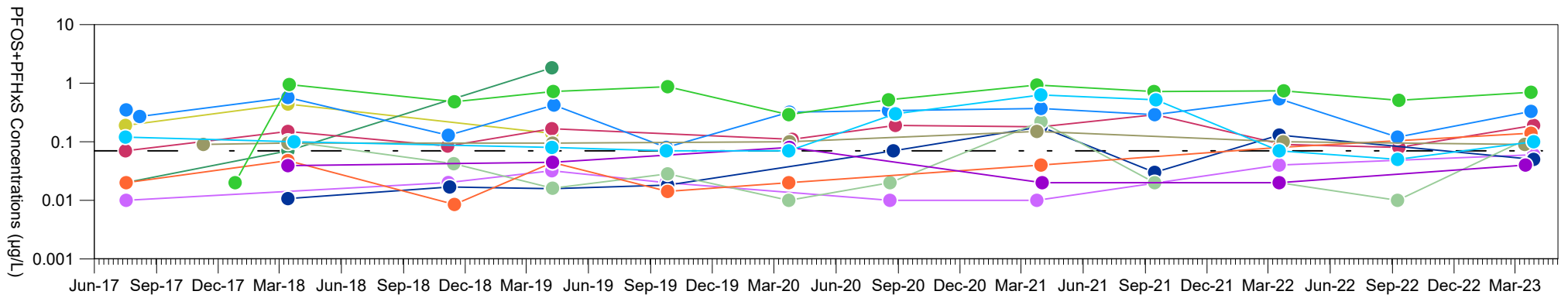
Plot
**10a to
 10c**

Data sources: Department of Defence Esdat

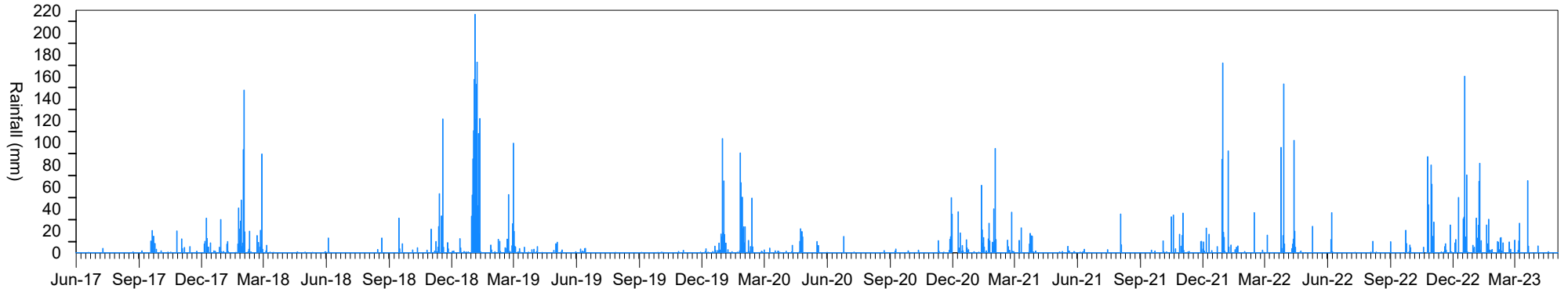
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Plot 11a - PFOA (µg/L)



Plot 11b - PFOS+PFHxS (µg/L)



Plot 11c - Daily Rainfall (mm)

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LEGEND

- Drinking Water Guideline (HEPA, 2020)
- Daily Rainfall
- MW209
- MW210
- MW211
- MW212
- MW213
- MW214
- MW215
- MW216
- MW256
- MW261
- MW264
- MW467

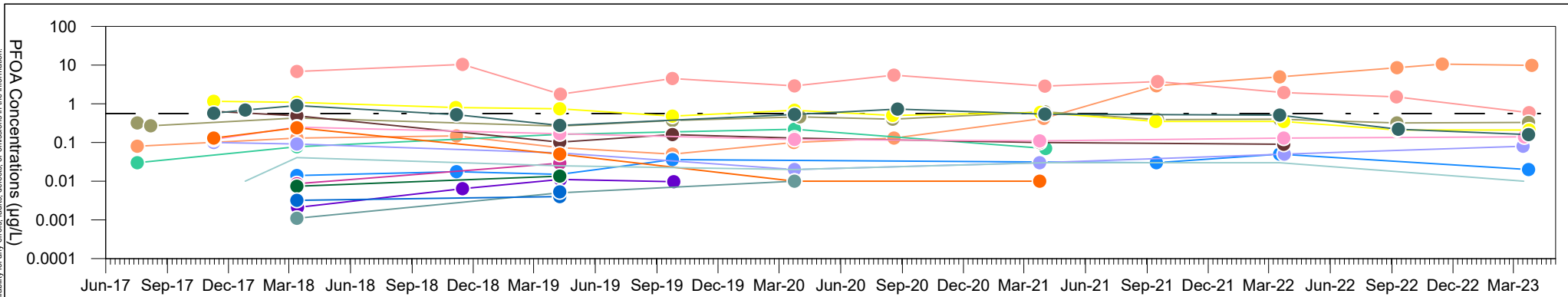
Data sources: Department of Defence Esdat

**PFOA and PFOS+PFHxS Concentrations
 Groundwater Off-Base - Rowes Bay and
 Belgian Gardens**

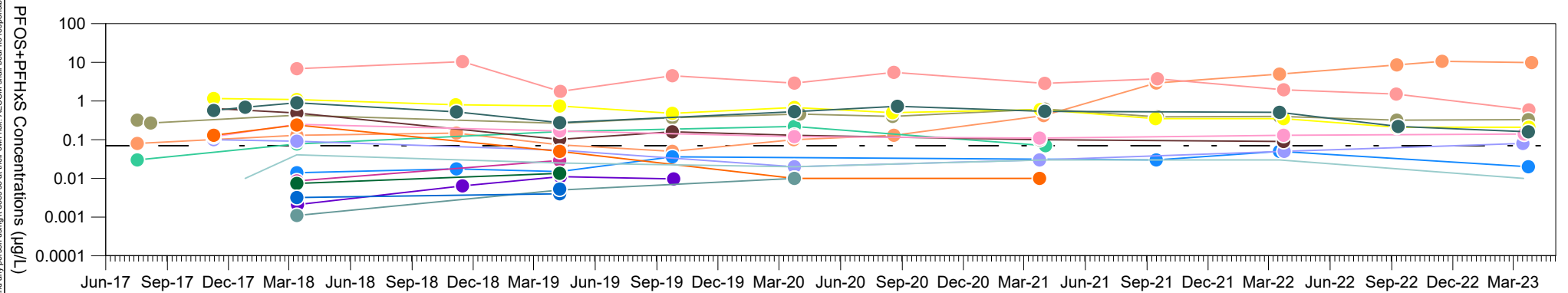
Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

Plot
**11a to
 11c**

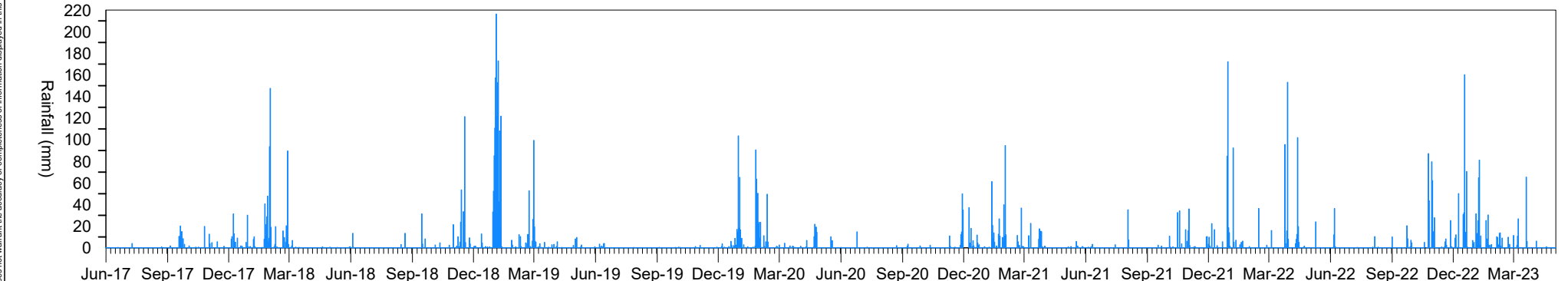
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Plot 12a - PFOA (µg/L)



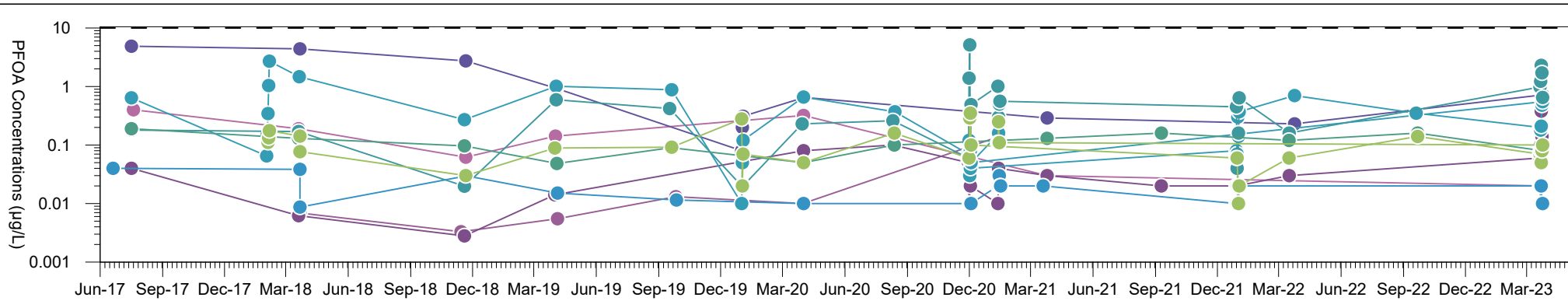
Plot 12b - PFOS+PFHxS (µg/L)



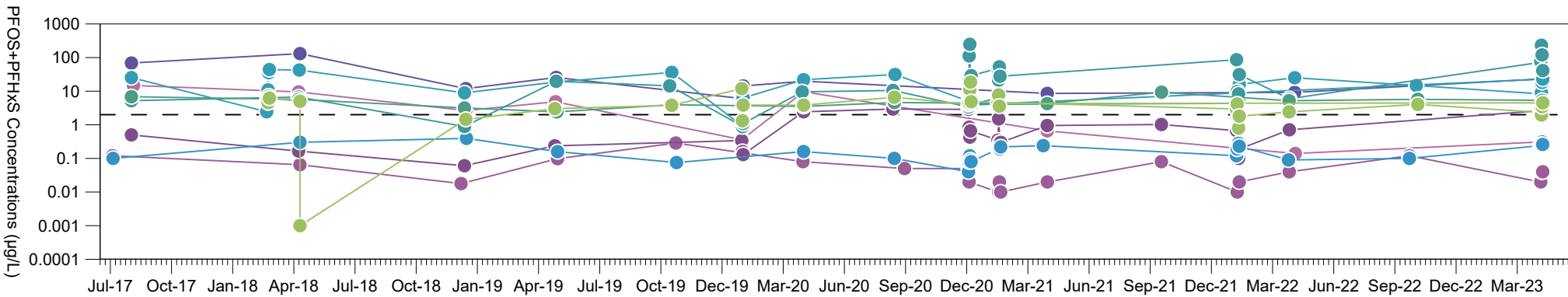
Plot 12c - Daily Rainfall (mm)

PROJECT ID 60612487 CREATED BY LJM APPROVED BY CJJ LAST MODIFIED 20/10/2023 	LEGEND — Drinking Water Guideline (HEPA, 2020)  Daily Rainfall ● MW217 ● MW218 ● MW219	● MW220 ● MW221 ● MW225 ● MW236 ● MW257	● MW258 ● MW259 ● MW266 Data sources: Department of Defence Esdat	● MW267 ● MW268 ● MW269 ● MW270	PFOA and PFOS+PFHxS Concentrations Groundwater Off-Base - Garbutt	
					Department of Defence Ongoing Monitoring Interpretive Report (December 2020 - May 2023) PFAS OMP - RAAF Base Townsville	Plot 12a to 12c

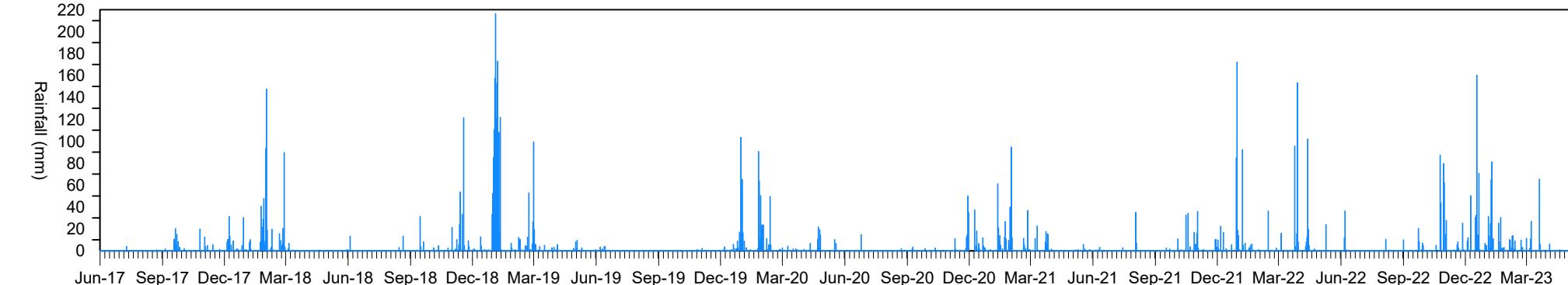
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Plot 13a - PFOA (µg/L)



Plot 13b - PFOS+PFHxS (µg/L)



Plot 13c - Daily Rainfall (mm)

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LEGEND	
● SW013	● SW125
● SW014	● SW126
● SW016	● SW131
● SW019	— Recreational WQ Guideline (HEPA, 2020)
● SW112	■ Daily Rainfall
● SW123	

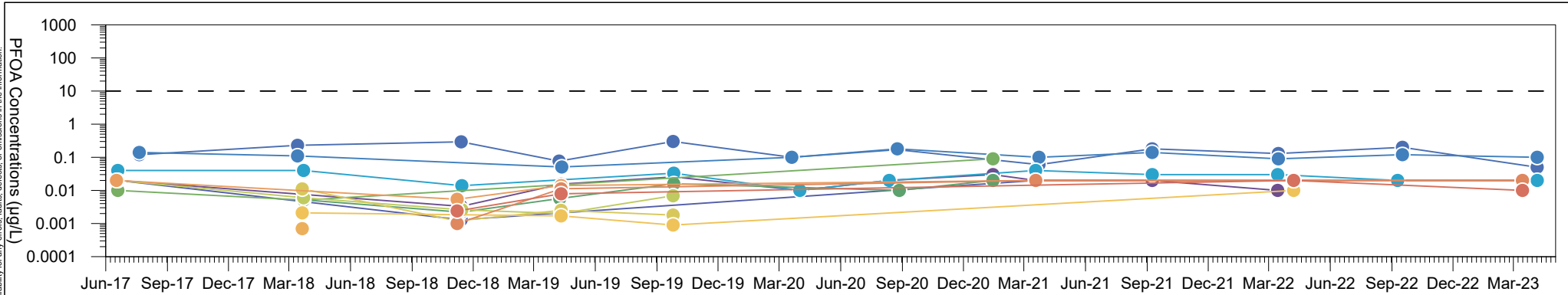
**PFOA and PFOS+PFHxS Concentrations
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - On-Base**

Department of Defence
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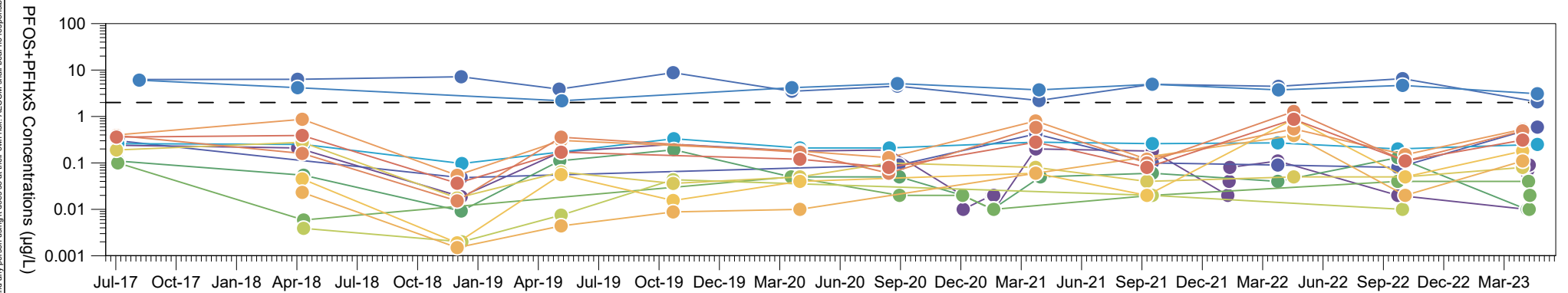
Plot
**13a to
 13c**

Data sources: Department of Defence Esdat

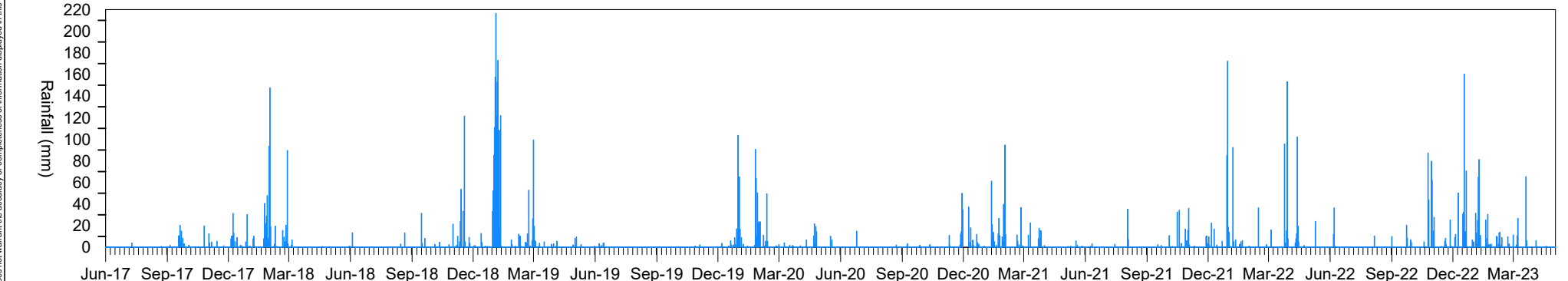
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Plot 14a - PFOA (µg/L)



Plot 14b - PFOS+PFHxS (µg/L)



Plot 14c - Daily Rainfall (mm)

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CREATED BY	LJM		
APPROVED BY	CJJ		
LAST MODIFIED	20/10/2023		

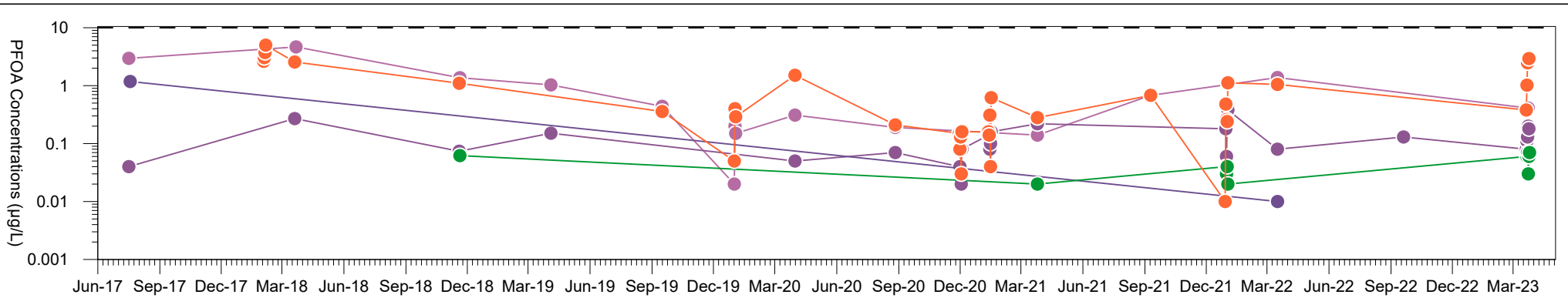
**PFOA and PFOS+PFHxS Concentrations
Bohle River/Louisa Creek/Townsville Town
Common Catchment - Off-Base**

Department of Defence
Ongoing Monitoring Interpretive Report
(December 2020 - May 2023)
PFAS OMP - RAAF Base Townsville

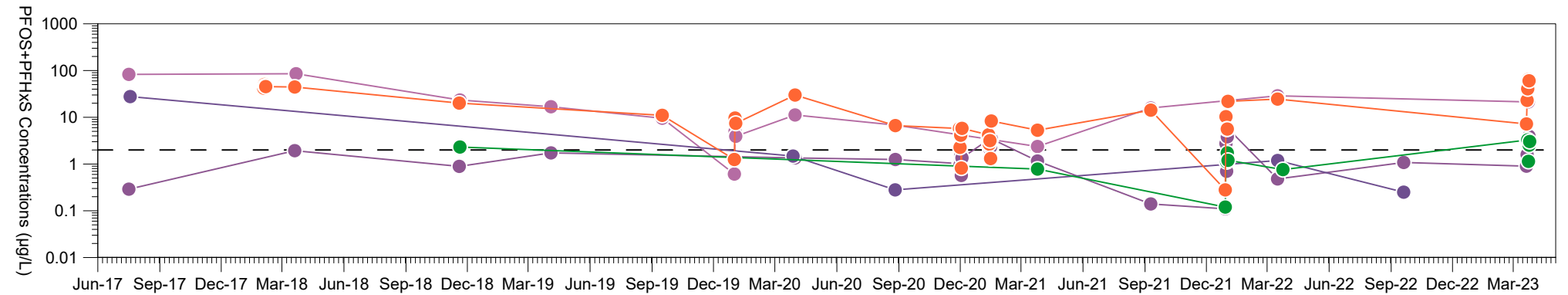
Plot
**14a to
14c**

Data sources: Department of Defence Esdat

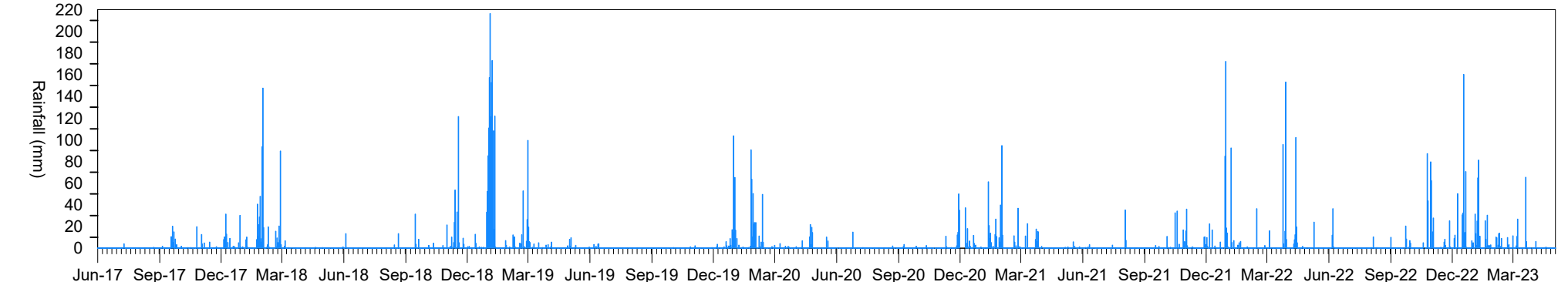
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Plot 15a - PFOA (µg/L)



Plot 15b - PFOS+PFHxS (µg/L)



Plot 15c - Daily Rainfall (mm)

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LEGEND

- SW001
- SW132
- SW010
- SW106
- SW121
- Recreational WQ Guideline (HEPA, 2020)
- Daily Rainfall

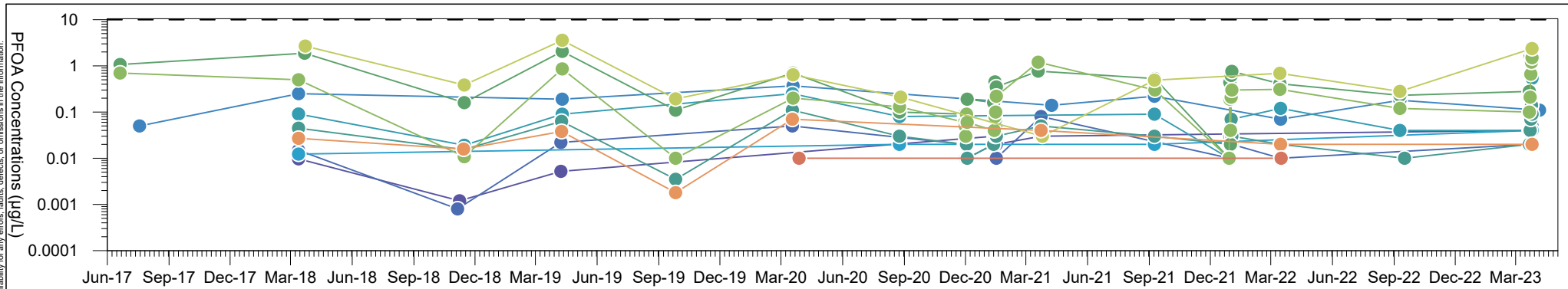
**PFOA and PFOS+PFHxS Concentrations
 Mundy Creek Catchment - On-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP RAAF Base Townsville

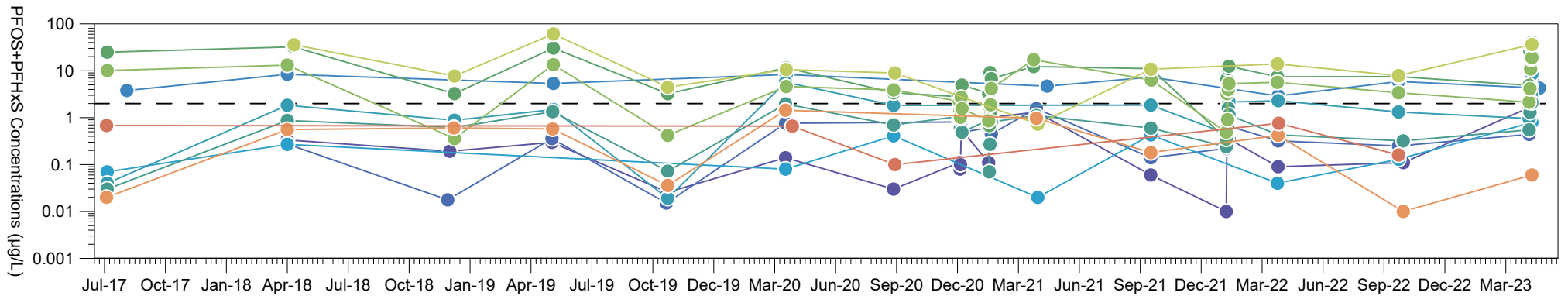
Plot
**15a to
 15c**

Data sources: Department of Defence Esdat

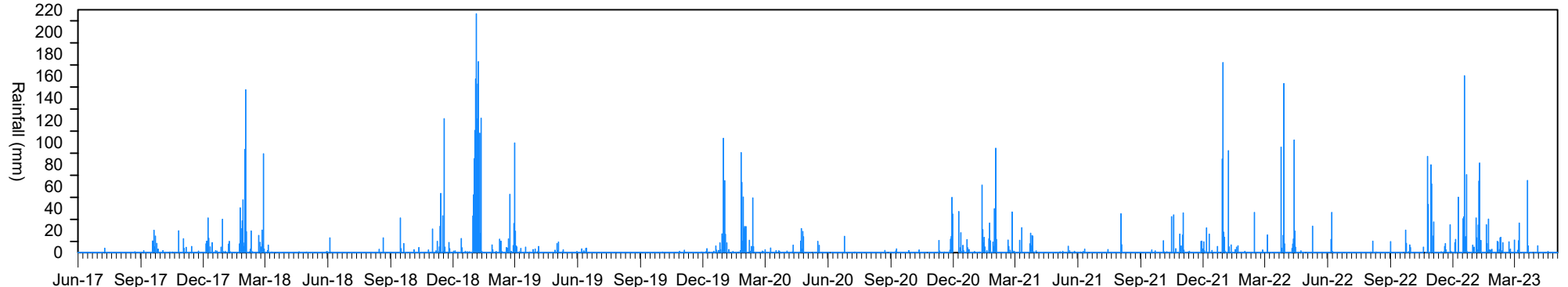
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Plot 16a - PFOA (µg/L)



Plot 16b - PFOS+PFHxS (µg/L)



Plot 16c - Daily Rainfall (mm)

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- LEGEND**
- SW108
 - SW109
 - SW113
 - SW114
 - SW115
 - SW116
 - SW117
 - SW118
 - SW119
 - SW208
 - SW209
 - Recreational WQ Guideline (HEPA, 2020)
 - Daily Rainfall

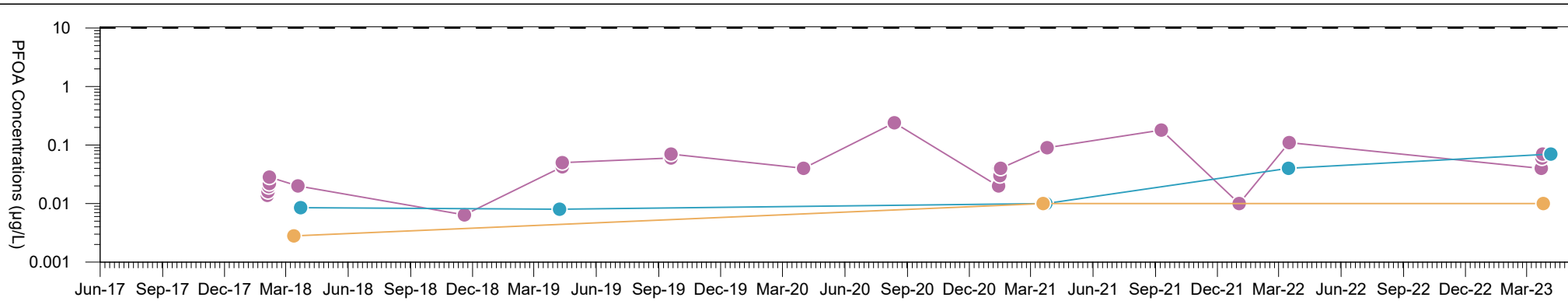
**PFOA and PFOS+PFHxS Concentrations
 Mundy Creek Catchment - Off-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

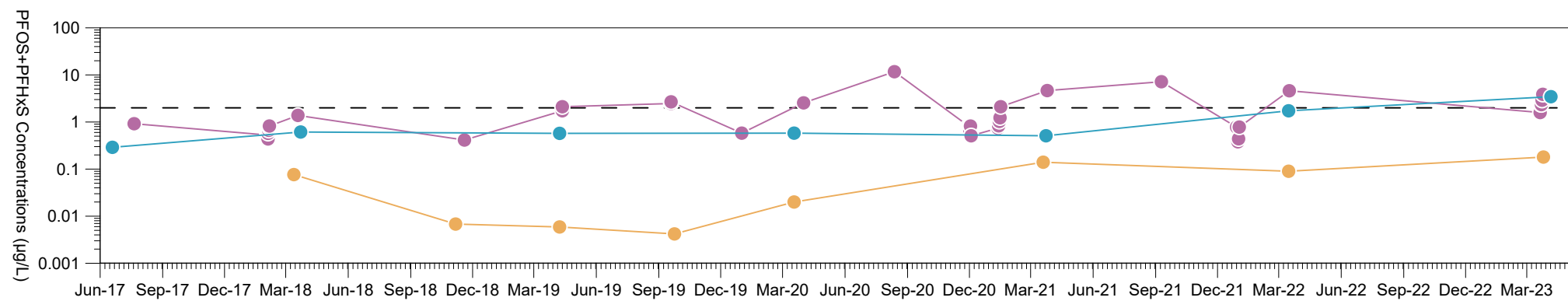
Plot
**16a to
 16c**

Data sources: Department of Defence Esdat

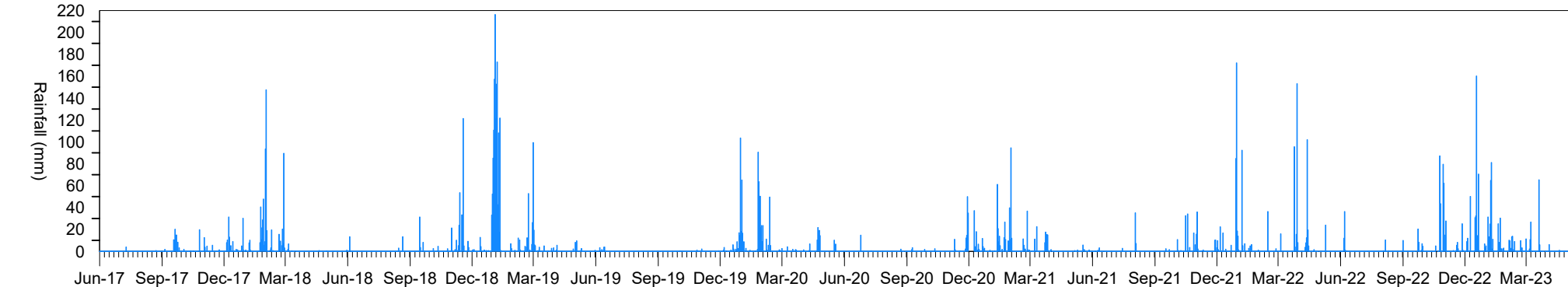
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Plot 17a - PFOA (µg/L)



Plot 17b - PFOS+PFHxS (µg/L)



Plot 17c - Daily Rainfall (mm)

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 LAST MODIFIED 20/10/2023



LEGEND

- SW102
- SW107
- SW210
- Recreational WQ Guideline (HEPA, 2020)
- Daily Rainfall

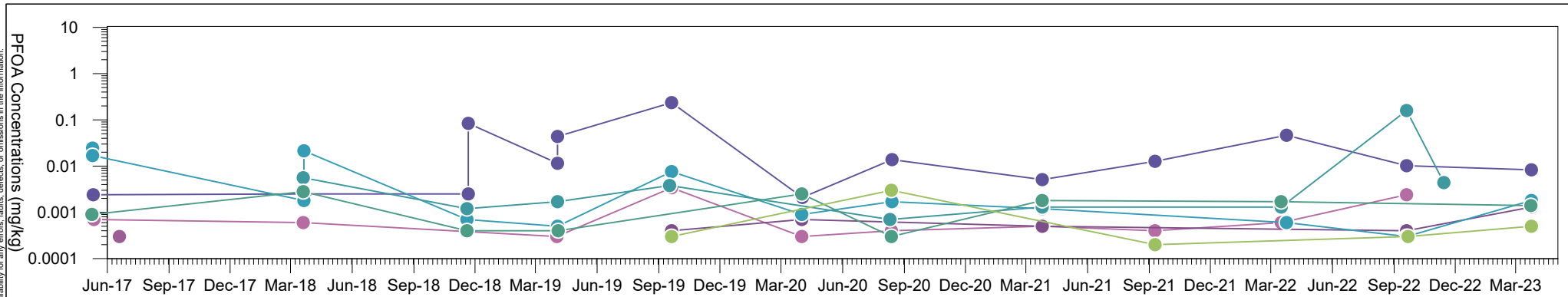
**PFOA and PFOS+PFHxS Concentrations
 Three Mile Creek Catchment -
 On- and Off-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP RAAF Base Townsville

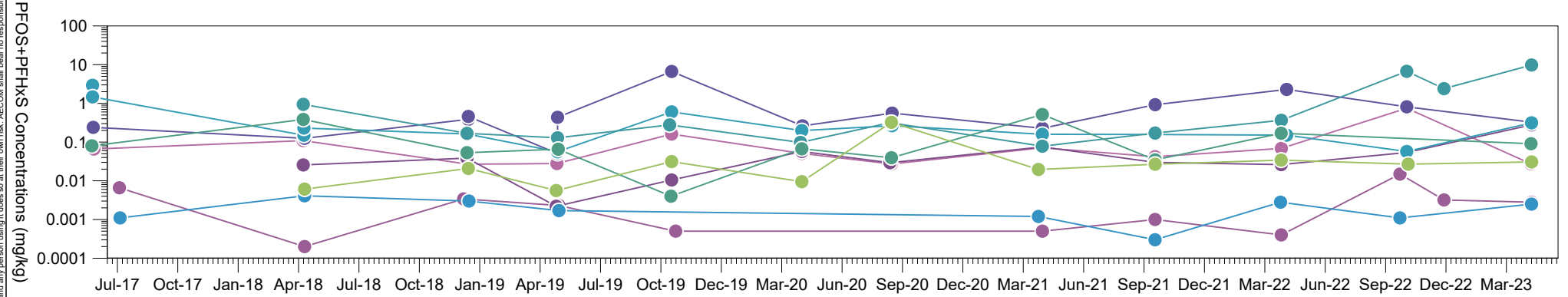
Plot
**17a to
 17c**

Data sources: Department of Defence Esdat

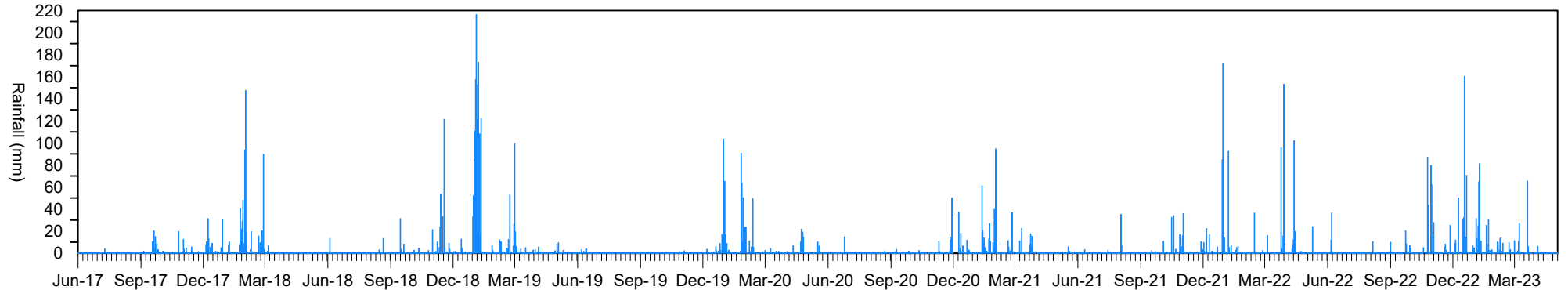
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Plot 18a - PFOA (mg/kg)



Plot 18b - PFOS+PFHxS (mg/kg)



Plot 18c - Daily Rainfall (mm)

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LEGEND

● SD013	● SD123
● SD014	● SD125
● SD016	● SD126
● SD019	● SD131
● SD112	■ Daily Rainfall

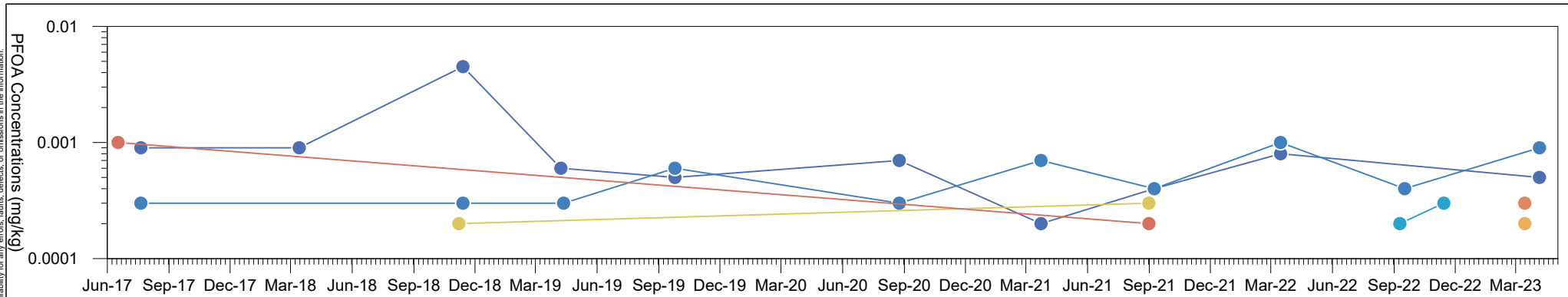
**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - On-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

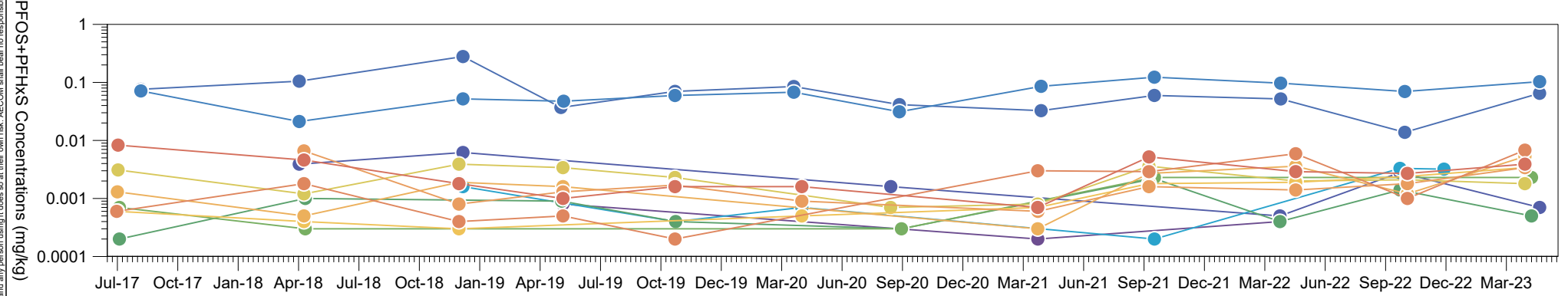
Plot
**18a to
 18c**

Data sources: Department of Defence Esdat

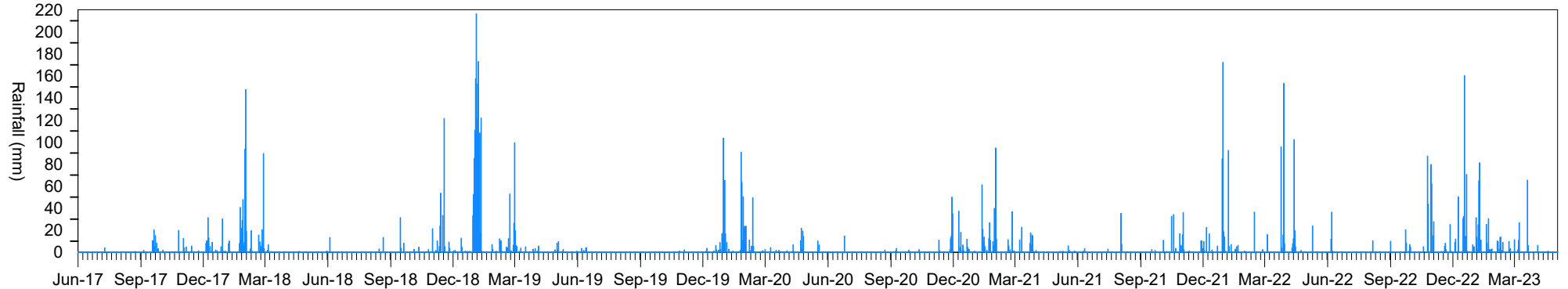
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Plot 19a - PFOA (mg/kg)



Plot 19b - PFOS+PFHxS (mg/kg)



Plot 19c - Daily Rainfall (mm)

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LEGEND	
SD017	SD127
SD021	SD129
SD110	SD201
SD111	SD202
SD120	SD203
SD204	SD205
SD206	SD207
Daily Rainfall	

**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Bohle River/Louisa Creek/Townsville Town
 Common Catchment - Off-Base**

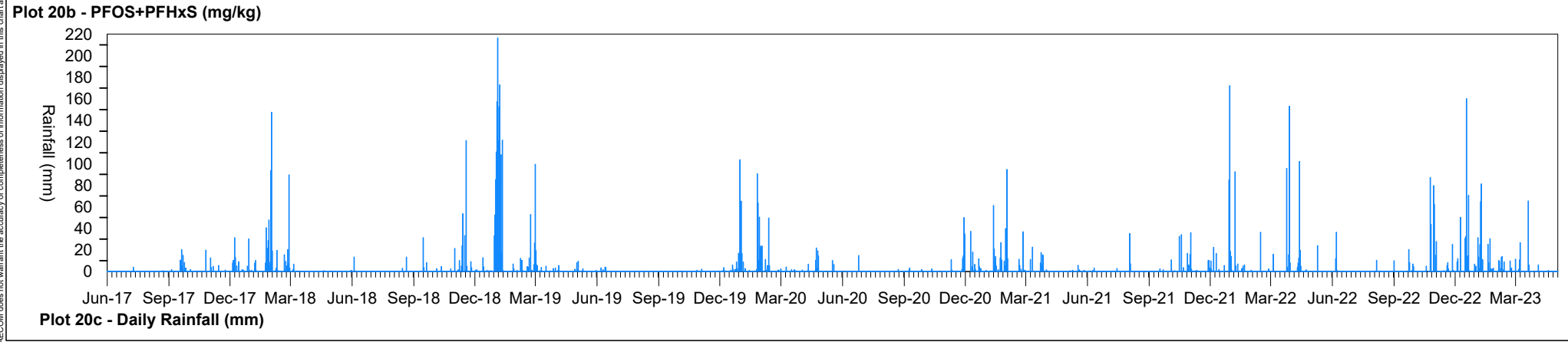
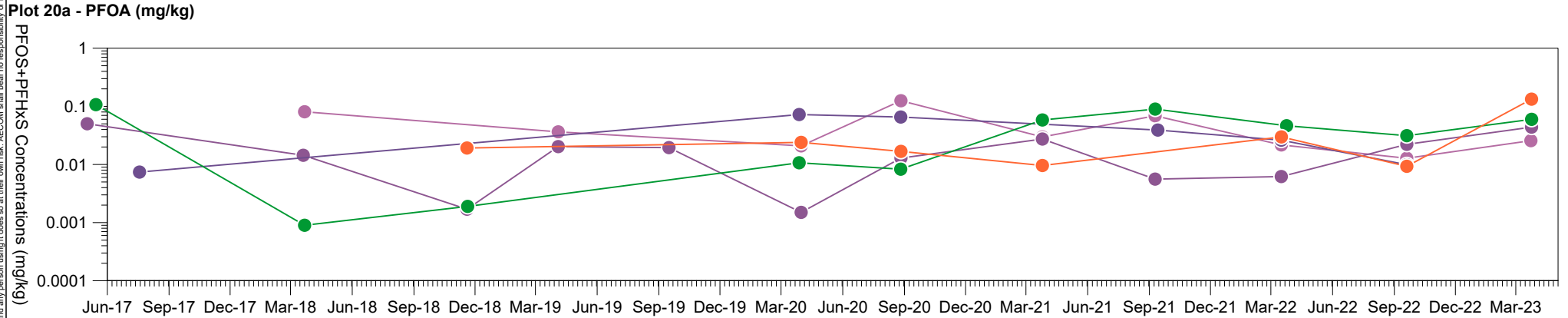
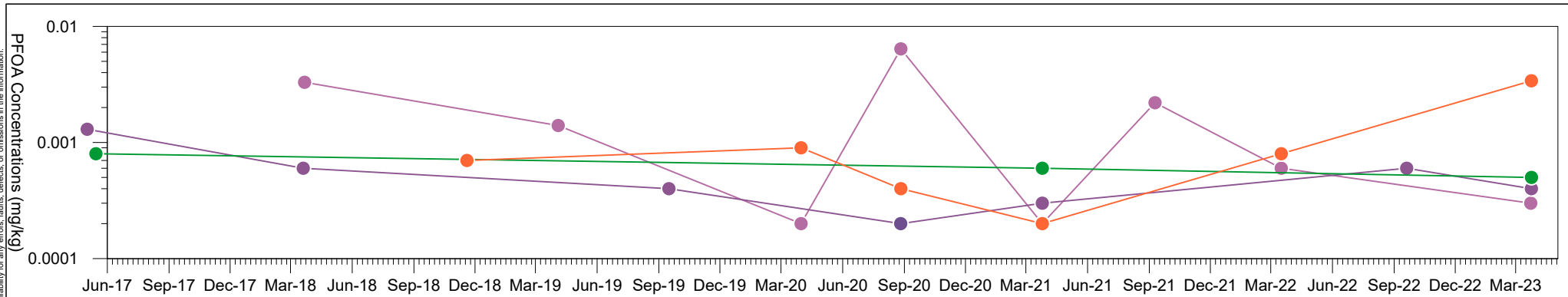
Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

Plot

**19a to
 19c**

Data sources: Department of Defence Esdat

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LEGEND

- SD001
- SD121
- SD010
- SD132
- SD106
- Daily Rainfall

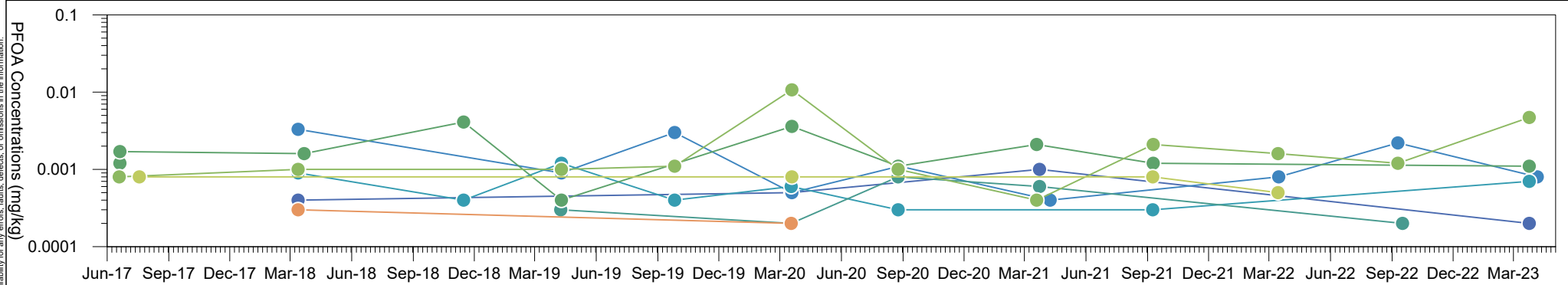
**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Mundy Creek Catchment - On-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP RAAF Base Townsville

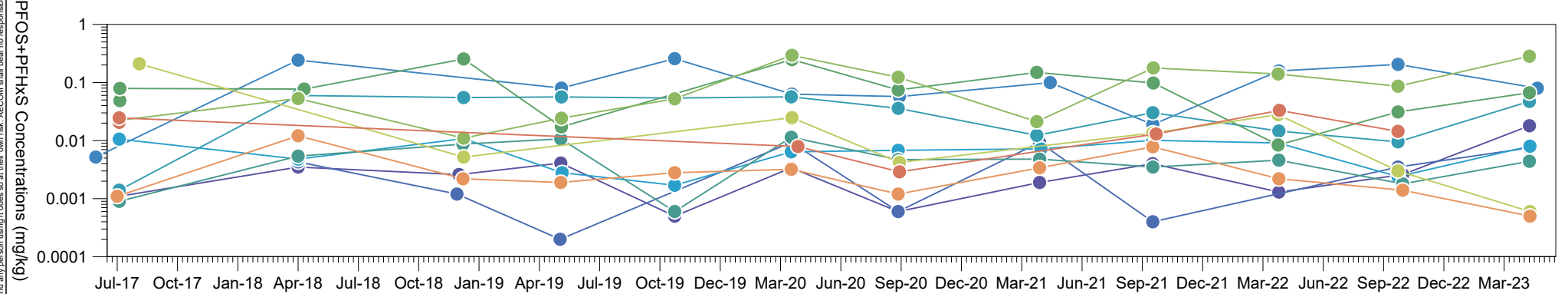
Plot
**20a to
 20c**

Data sources: Department of Defence Esdat

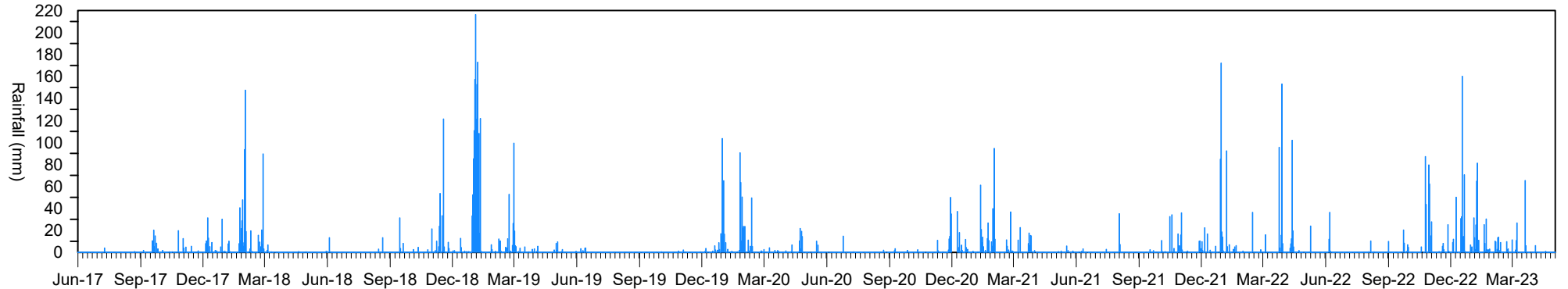
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Plot 21a - PFOA (mg/kg)



Plot 21b - PFOS+PFHxS (mg/kg)



Plot 21c - Daily Rainfall (mm)

PROJECT ID 60612487
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 APPROVED BY CJJ
 LAST MODIFIED 20/10/2023



LEGEND	
SD108	SD115
SD109	SD116
SD113	SD117
SD114	SD118
SD119	SD208
SD209	Daily Rainfall

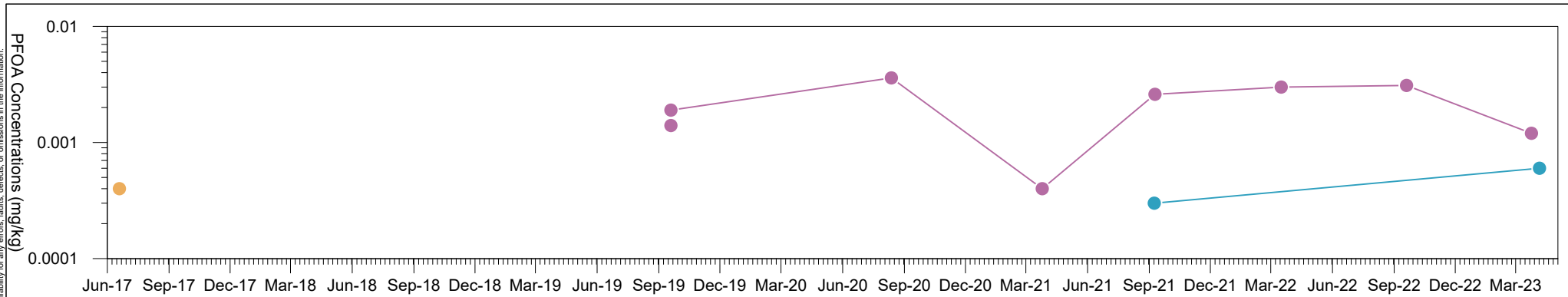
**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Mundy Creek Catchment - Off-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP - RAAF Base Townsville

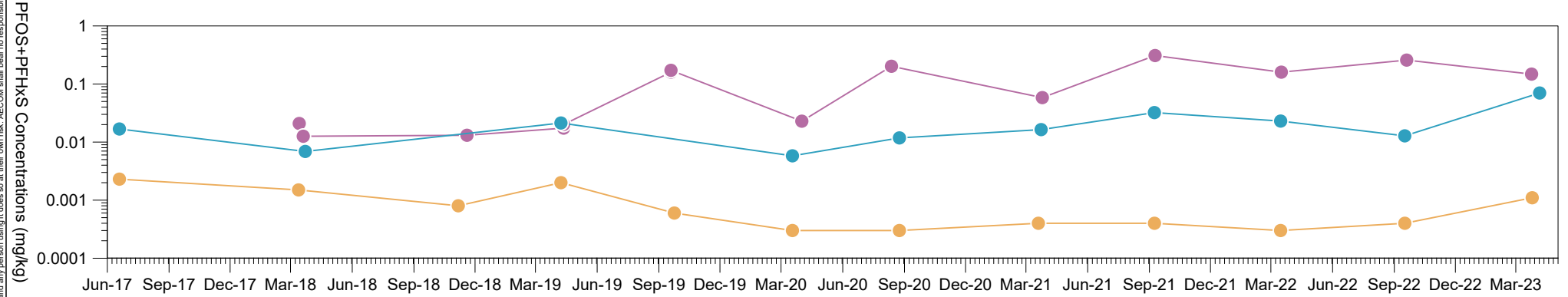
Plot
**21a to
 21c**

Data sources: Department of Defence Esdat

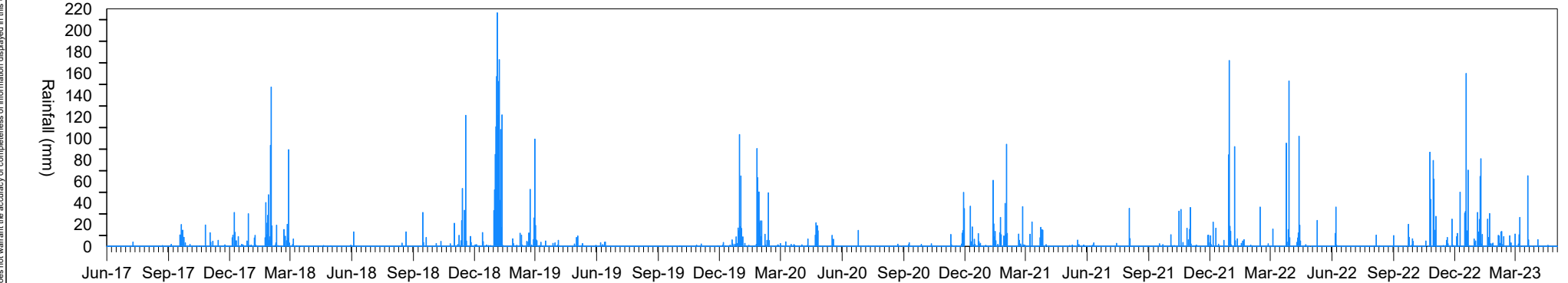
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Plot 22a - PFOA (mg/kg)



Plot 22b - PFOS+PFHxS (mg/kg)



Plot 22c - Daily Rainfall (mm)

PROJECT ID 60612487
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 APPROVED BY CJJ
 LAST MODIFIED 20/10/2023



LEGEND

- SD102
- SD210
- SD107
- Daily Rainfall

**PFOA and PFOS+PFHxS Concentrations
 Sediment
 Three Mile Creek Catchment - On-
 and Off-Base**

Department of Defence
 Ongoing Monitoring Interpretive Report
 (December 2020 - May 2023)
 PFAS OMP RAAF Base Townsville

Plot

**22a to
 22c**

Data sources: Department of Defence Esdat

Appendix D

Sampling Analysis and Quality Plan

PFAS OMP RAAF Base Townsville

Sampling and Analysis Quality Plan

05-Apr-2023
PFAS Ongoing Monitoring Plan
Commercial-in-Confidence

AECOM

PFAS Ongoing Monitoring Plan
PFAS OMP RAAF Base Townsville – Sampling and Analysis Quality Plan
Commercial-in-Confidence

PFAS OMP RAAF Base Townsville

Sampling and Analysis Quality Plan

Client: Department of Defence - Environmental and Engineering Branch, Directorate of PFAS Remediation

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO Box 5423, Townsville QLD 4810, Australia
T +61 7 4729 5500 www.aecom.com
ABN 20 093 846 925

5 April 2023

Job No.: 60612487

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Quality Information

Document PFAS OMP RAAF Base Townsville – Sampling and Analysis Quality Plan

Ref 60612487_RP30_20230405_9

Date 5 April 2023

Prepared by

Reviewed by

Verifier/s



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			Name/Position	Signature
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1.0 Introduction

1.1 Preamble

AECOM Australia Pty Ltd (AECOM) has prepared this Sampling and Analysis Quality Plan (SAQP) for the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Program at RAAF Townsville (the “Base”) and the RAAF Townsville Management Area in the North Queensland Region, as defined in the *PFAS Management Area Plan (PMAP)*, (Defence, 2019).

The SAQP supports the *PFAS Ongoing Monitoring Plan (OMP)* which forms part of the *RAAF Base Townsville PMAP*, herein referred to as the OMP.

The purpose of the OMP is to collect data to enable Defence to maintain an up to date understanding of the distribution, concentration and transport (migration pathways and flow) of PFAS at the Base and the RAAF Townsville Management Area. The data will assist in the timely identification of risks and inform Department of Defence’s (Defence) approach to the management of PFAS, including updates and revisions to the PMAP. Deviations from the OMP are noted in **Table 22, Section 4.15**.

1.2 SAQP Objectives

The objectives of this SAQP are to:

- Outline the proposed monitoring locations;
- Outline the adopted sampling methodology; and
- Outline the adopted data quality assurance and quality control (QA/QC) measures.

1.3 Scope of Works

To meet the project objectives, the following scope of works are proposed as per the OMP (Defence, 2019):

- Annual comprehensive post-wet season sampling event in April 2020, April 2021, April 2022, April 2023 and April 2024 including:
 - Groundwater gauging of 29 selected monitoring wells;
 - Groundwater sampling of 107 monitoring wells;
 - Surface water sampling at 42 locations (provided water is present), co-located with 42 sediment sampling locations.
- Targeted post-dry season sampling event in October 2020, October 2021, October 2022 and October 2023 including:
 - Groundwater gauging of 29 monitoring wells;
 - Groundwater sampling of 82 monitoring wells; and
 - Surface water sampling at 42 locations (provided water is present), co-located with 42 sediment sampling locations.
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of 5 days, limited to one event per calendar year.
- Preparation of reports including a sampling event factual report (following each biannual or high rainfall sampling event) and annual interpretative reports following the completion of each 12-month sampling period.

1.4 Previous Investigations

A list of relevant published documents is provided below:

- GHD Australia Pty Ltd (GHD) (2016). Defence per- and poly-fluoroalkyl Substances (PFAS) Environmental Management Preliminary Sampling Program RAAF Base Townsville. September
- WSP Australia Pty Limited (WSP) 2018a. RAAF Base Townsville Detailed Site Investigation – PFAS. May
- WSP 2018b. RAAF Base Townsville Human Health Risk Assessment (HHRA). October
- Defence (2019). PFAS Management Area Plan – RAAF Townsville.
- WSP 2019a. RAAF Townsville - Seasonal Monitoring Report 1 – PFAS. December
- WSP 2019b. RAAF Townsville - Seasonal Monitoring Report 2 – PFAS. December
- WSP 2019c. RAAF Townsville – Ecological Risk Assessment (ERA). December
- AECOM (2021d). Annual Interpretive Report 2020, PFAS OMP - RAAF Base Townsville. June

1.5 Guidelines and Legislation

The SAQP has been developed with reference to the following guidelines and legislation:

- Heads of Environmental Protection Agencies (HEPA), (2020), PFAS National Environmental Management Plan (NEMP) 2.0.
- National Environment Protection Council (NEPC), (1999, as amended 2013) National Environment Protection (Assessment of Site Contamination) Measure (NEPM).
- Defence (2018), Routine Environment Water Quality Monitoring Manual.
- Defence (2018 amended June 2021) Contamination Management Manual (DCMM).
- Department of Health (DoH), (2019), Health Based Guidance Values for PFAS for use in site investigations in Australia.
- National Health and Medical Research Council (NHMRC), (2019), Guidance on PFAS in Recreational Water.
- Standards Australia (1998). AS/NZ 5667:1998 Water Quality - Sampling - Guidance on Sampling of Groundwaters.
- Australian and New Zealand Governments (ANZG), 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- State of Queensland (2019), Environmental Protection (Water and Wetland Biodiversity) Policy,.

2.0 Site Setting and Conceptual Site Model

2.1 Site Description

RAAF Townsville is located in Garbutt, a suburb of Townsville in North Queensland, approximately 5 km from Townsville City. The Base has operated as an airfield since the late 1930's and the two runways are now shared with the Townsville Civilian Airport. The Base is subject to a large range of operational uses including but not limited to four military units, accommodation for officers and transit personnel, a fire station, current and former fire training grounds, fuel farms and an aircraft runway.

The Management Area comprises the limits of the Base which is adjacent to Townsville Airport, residential and commercial suburbs of Garbutt, Rowes Bay, West End, Belgian Gardens, Pallarenda, Mount St John, Mount Louisa, Bohle and the Townsville Town Common wetlands (the Town Common). Three discrete Sub-Management Areas exist within the Base, as outlined in **Table 1** and shown in **Appendix B**. The Monitoring Area encompasses the Base and surrounds.

Table 1 Sub-Management Areas on Base

Sub-Management Area	Purpose
Sub-Management Area 1: Former Fire Training Area, CSR_QLD_000246	This area is located in the south-eastern portion of the Base and is the source area to Mundy Creek Catchment. Historically the area was used for routine fire training activities and testing of aqueous film-forming foam (AFFF) mixing (WSP, 2018a).
Sub-Management Area 2: Former Fire Training Area, CSR_QLD_000244 Fire Station, CSR_QLD_000245 Fuel Farm 2, CSR_QLD_000351	This area is located in the centre of the Base and is a source area for Louisa Creek Catchment and the Townsville Town Common. Historically the area was used for fire training activities, equipment testing and had possible AFFF spills (WSP, 2018a).
Sub-Management Area 3: 5 Aviation (5AVN) (includes CSR_QLD_000349, CSR_QLD_000358, CSR_QLD_000475, CSR_QLD_000637)	This area is located in the south-western section of the Base and is a source area for Louisa Creek Catchment and the Townsville Town Common. Historically the area was used for equipment testing and AFFF storage and had possible AFFF spills (WSP, 2018a).

The Monitoring Area includes the Base and surrounds in which monitoring is occurring in line with the OMP. Adjoining Defence properties (such as 5AVN Fire Water booster pumps site [Property 1273] and Ruediger Park [Property 0875] across Ingham Road to the south) are inferred to be on-Base.

2.2 Site Setting

A summary of the Base site setting is provided below.

Table 2 Site Identification and Setting Summary (as taken from Annual Interpretive Report 2021, AECOM 2022b)

Element	Description
Regional Climate	The regional climate of Townsville is classified as tropical; however, rainfall is typically lower than other locations on the coast of North Queensland. The wet season, from approximately October to April is associated with hot and humid conditions with periods of heavy rain. The dry season is associated with dry, warm days and cool nights from approximately May to September.
Topography, geology and hydrogeology	The Base and surrounds are generally flat and low lying and are associated with the Bohle River and Townsville Town Common wetlands systems, which are subject to flooding and tidal inundation. The Base has an elevation of between 2 and 5 metres Australian Height Datum (m AHD). The elevation decreases towards to north and north-west, reaching sea level in the Townsville Town Common and at Pallarenda and Rowes Bay beaches.

Element	Description
	<p>The general underlying geology is Quaternary-aged alluvium comprising clay, silt, sand and gravel. The surface geology is presented in the Detailed Site Investigation (DSI) Report (WSP, 2018a).</p> <p>The geology is varied across the Monitoring Area; however, in general it is described as Pleistocene, quartzose, fluvial sands and gravels deposited by the Ross/Bohle River systems, overlain by shallow marine and estuarine clays, which in turn are overlain by coastal plain sediment comprising silts, clays, and minor sands. The underlying basement of Townsville is described as Julago Volcanic, comprising rhyolite to andesitic lava tuff, volcanic breccia, agglomerate with some conglomerate, sandstone, siltstone, shale and coal seams.</p> <p>There are three rocky outcrops in the region: Many Peaks Range to the north, Mount Louisa to the south-west and Castle Hill to the east.</p> <p>Three aquifers have been identified beneath the Base (WSP, 2018a), summarised as:</p> <ol style="list-style-type: none"> 1. A shallow unconfined sand aquifer hosted in the coastal sand dunes of Cleveland Bay, Rowes Bay and Pallarenda, with a maximum depth of 6.5 metres below ground level (mbgl); overlying 2. A shallow, semi-confined aquifer comprised of interbedded clays, silts and sands forming a connected aquifer across the Base, with depths between 8 mbgl (on-Base) and 11 mbgl (within Garbutt); overlying 3. A deeper, semi-confined aquifer located in sands and gravels associated with paleo-channels at depths between 15 and 40 mbgl. <p>Inferred groundwater flow directions derived during the DSI (WSP, 2018a) and the Seasonal Monitoring Reports (WSP, 2019a; WSP, 2019b) indicated groundwater flows in a north to north-east direction across the Monitoring Area towards the Townsville Town Common and Rowes Bay. A piezometric high point extends from Garbutt across the south-east corner of the Base to Townsville Airport. Groundwater flow is partially radial around this area towards the west, north-west, north-east and east.</p>
Vegetation	<p>There is little to no remnant vegetation across the majority of the Base, airport and surrounding suburbs.</p> <p>The Town Common is classified 'Category B – Remnant vegetation' on the Regulated Vegetation Management Map, with a section at the centre of the Town Common classified as 'Essential Habitat Category A or B'. The lower reaches of the Bohle River are classified as 'Category R – Reef regrowth watercourse vegetation'.</p> <p>Portions of the Three Mile Creek and Mundy Creek wetlands are classified 'Category B – Remnant vegetation' on the Regulated Vegetation Management Map, with the banks of the lower reaches classified as 'Category R – Reef regrowth watercourse vegetation'.</p>
Surface water and drainage	<p>The Base has three main surface water catchments: the Bohle River drainage sub-basin including Bohle River/Louisa Creek/Town Common catchment, Three Mile Creek and Mundy Creek (also referred to as Captain's Creek). The monitoring network targets these catchments, both on-Base and off-Base.</p> <p>The three main drainage channels which flow into the Base are Louisa Creek, Peewee Creek and Mount St John Drain, all of which have catchments within the urbanised suburbs to the south and east. Peewee Creek is a small watercourse that flows into Louisa Creek. Louisa Creek drains to the Townsville Town Common to the north of the Base. Drainage to the west enters the Base through the Mount St John Drain, which is</p>

Element	Description
	<p>separated from Louisa Creek by an elevated ridge line. The primary flow path of the drain is north, away from the Base.</p> <p>On-Base, a network of drains primarily direct surface water towards the north-west towards the Louisa Creek flood plain, Townsville Town Common and the Bohle Estuary. Surface water from the south-east corner of the Base is directed to the east and then north into Mundy Creek catchment and ultimately Rowes Bay. The ordnance loading aprons and Runway 01/19, drain towards the northern boundary into the palustrine wetlands located adjacent to Rowes Bay Golf Club and ultimately into Three Mile Creek. The area to the north of Runway 01/19 along the eastern boundary of the base, drains east into the watercourse that runs along the northern side the Belgian Gardens Cemetery, joining Mundy Creek to the east before flowing north into Rowes Bay.</p> <p>Sections of the Base located adjacent to the runways, are subject to inundation and have pumping networks designed to prevent flooding. Surface water is pumped from sumps which discharge to the wetlands along the western, north-western and northern sides of the Base.</p>
Vegetation	<p>Grounds on Base are regularly maintained by the Estate Maintenance and Operation Support (EMOS) contractor. This includes mowing of grassed areas.</p> <p>Areas of wetland vegetation are present across the western portion of the Base. These areas are populated with protected marine plants and classed as “Nationally Important Wetlands” by the <i>Environmental Protection and Biodiversity Conservation (EPBC) Act 1999</i>. However, the environmental values cited in the EPBC Protected Matters Search Tool report (Commonwealth of Australia, 2021) are unlikely to be sustained given the historical use of the Property and the enactment of the wildlife hazard management plan which manages habitat on and surround the Base to limit the frequency and severity of bird strikes with aircraft (AECOM, 2019).</p>
Current and previous land use (including AFFF use)	<p>The Base has operated as an airfield since the late 1930s and the two runways are now shared with the Townsville Civilian Airport. The Base is subject to a large range of operational uses including but not limited to four military units, accommodation facilities, a fire station, current and former fire training grounds, fuel farms and an aircraft runway. PFAS was a component of legacy AFFF used at the Base for managing fuel fires and training Defence personnel in fire-fighting techniques, which contained containing perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) as active ingredients.</p> <p>Defence has phased out the use of legacy AFFF to the use of Ansulite foam which does not contain PFOS and PFOA as active ingredients, although they are still present in trace amounts. Ansulite is used by Defence only in emergency situations where human life is at risk, or in controlled environments to test equipment.</p> <p>Previous environmental investigations have identified that soil, sediment, surface water and groundwater on- and off-Base have been impacted by PFAS.</p>
Land uses surrounding the Base	<p>The surrounding area comprises the residential suburbs of Pallarenda, Rowes Bay, West End and Belgian Gardens. Other land use includes various public facilities and parklands, a cemetery, and commercial/light industrial land use in the suburbs of Mount Louisa, Mount St John and Bohle. The Townsville Town Common is zoned as “Public Utilities – Townsville City Council (Reserves)” and “Special Uses – National parks” under the Townsville City Plan. Bohle River and Bohle River estuary are also extensively used for recreational fishing.</p>

2.3 Conceptual Site Model

The CSM was developed during the investigation stages (WSP, 2018a; WSP, 2019a; WSP, 2019b) and summarised in the OMP (Defence, 2019). The CSM summarises the linkages between sources, exposure pathways and receptors.

The Annual Interpretive Report (AECOM, 2022b) noted that the ongoing monitoring program monitoring over the last 12 months had provided additional data to further understand the nature and extent of PFAS concentrations in groundwater, surface water and sediment. Comparison to the available historical dataset indicates that the extent of PFAS in groundwater and surface water is similar to the extent assessed in the CSM, developed in the DSI (WSP, 2018a). Some fluctuation in the concentrations of individual PFAS compounds at individual monitoring locations is occurring, but the PFAS transport mechanisms and extent of the plume is consistent with that presented in the DSI (WSP, 2018a). The one groundwater monitoring well with PFAS concentrations orders of magnitude outside of historical range (MW021) is within a previously defined source area and as such, the exposure scenario is covered by the existing CSM.

The pathways for PFAS exposure and risks to human health and ecological receptors presented in the HHRA (WSP, 2018b), ecological risk assessment (WSP, 2019c) and PMAP (Defence, 2019) are considered to be relevant and data presented in this report does not suggest any significant changes to these mechanisms or risks.

The data presented in this report do not change the understanding of the CSM. Future monitoring will continue to contribute to an evaluation of any potential changes to the CSM understanding.

3.0 Data Quality Assessment

3.1 Data Quality Objectives

The amended NEPM, (2013) Schedule B2 Guideline on Site Characterisation (2013) specifies that the nature and quality of the data produced in an investigation will be determined by the Data Quality Objectives (DQOs). As referenced by the NEPM, the DQO process is detailed in the United States Environmental Protection Agency (US EPA), (2006) *Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4: EPA/240/B-06/001)*.

The US EPA defines the process as ‘a strategic planning approach based on the Scientific Method that is used to prepare for a data collection activity. It provides a systematic procedure for defining the criteria that a data collection design should satisfy, including when to collect samples, where to collect samples, the tolerable level of decision errors for the study, and how many samples to collect’.

The process of establishing appropriate DQOs is defined according to the following seven steps:

Table 3 The seven steps in defining DQOs

Step	Data Quality Objective Step
1	State the problem – Define the problem that necessitates the study; identify the planning team, examine budget, schedule.
2	Identify the goal of the study – State how environmental data will be used in meeting objectives and solving the problem, identify study questions, define alternative outcomes.
3	Identify information inputs – Identify data and information needed to answer study questions.
4	Define the boundaries of the study – Specify the target population and characteristics of interest, define spatial and temporal limits, scale of inference.
5	Develop the analytic approach – Define the parameter of interest, specify the type of inference, and develop the logic for drawing conclusions from findings.
6	Specify performance or acceptance criteria – Develop performance criteria for new data being collected or acceptable criteria for existing data being considered for use.
7	Develop the plan for obtaining data – Select the resource-effective sampling and analysis plan that meets the performance criteria.

The approach adopted relative to the seven steps presented above is discussed below.

3.1.1 Step 1 – State the Problem

Defence and State agencies require up-to-date data to enable informed risk management decisions to protect human health and the environment, given that elevated concentrations of PFAS have been identified in environmental media.

Defence requires an understanding of the holistic effect of PFAS management response activities that have and will be implemented.

The data collected by this SAQP will provide a detailed dataset that can be used to assist with assessment of temporal changes in PFAS concentrations in groundwater and surface water/sediment on- and off-site. This will facilitate refinement of the CSM and associated risk, allow update of the human health and ecological risk assessment and inform management decisions by Defence and government agencies.

3.1.2 Step 2 – Identify the Goal of the Study

The overall goal of the study is to establish a systematic routine groundwater and surface water/sediment sampling and analysis program to provide current and ongoing information on the distribution and migration of PFAS contaminants of potential concern in groundwater and surface water/sediment in the Management Area and Monitoring Area.

Specific goals of the program are to:

- Understand the changes and trends in the nature, extent and magnitude of PFAS concentrations in the groundwater, surface water and sediment within the Management Area and Monitoring Area;
- Understand if the nature, extent and magnitude of PFAS concentrations have changed significantly to warrant a revision to the human health and environmental risk assessments; and
- Understand if the nature, extent and magnitude of PFAS concentrations have changed significantly to warrant refinement of any existing management measures.

The decisions to be made based on the results of the investigation are:

- Do the analytical results and field observations allow for an assessment of risk(s) associated with complete or potentially complete PFAS source-pathway-receptor pathways?
- Do the analytical results and field observations allow for the interpretation of PFAS trends and do these trends warrant a re-evaluation of management actions?
- Does the OMP need to be refined to address uncertainty and would such a change(s) result in greater efficacy with respect to ongoing management or future intervention.

3.1.3 Step 3 – Identify Information Inputs

To allow assessment of the data against the study goal listed in Step 2 above, the following inputs will be considered:

- Physical setting of the Base;
- PFAS results from previous investigations;
- Meteorological data including rainfall;
- Field observations;
- Groundwater, sediment and surface water data collected and analysed for PFAS to assess the distribution and extent of PFAS, as part of this SAQP;
- Groundwater and surface water elevation data;
- Fate and transport mechanisms and behaviour of PFAS in the environment;
- Screening criteria (refer **Section 4.10**);
- Statistical analysis to identify trends; and
- Advances in laboratory analytical approaches and changes in regulatory requirements; and
- Recommendations made in the preceding reports completed by AECOM:
 - AECOM (2020). Sampling Event Factual Report, April 2020. PFAS OMP - RAAF Base Townsville.
 - AECOM (2021a). Sampling Event Factual Report, September 2020. PFAS OMP - RAAF Base Townsville.
 - AECOM (2021b). Rainfall Event Sampling Factual Report, December 2020. PFAS OMP – RAAF Base Townsville.
 - AECOM (2021c). Rainfall Event Sampling Factual Report, February 2021. PFAS OMP – RAAF Base Townsville.
 - AECOM (2021d). Annual Interpretive Report 2020, PFAS OMP - RAAF Base Townsville.
 - AECOM (2021e). Sampling Event Factual Report. April 2021. PFAS OMP - RAAF Base Townsville.
 - AECOM (2021f). Sampling Event Factual Report. October 2021. PFAS Ongoing Monitoring Program – RAAF Base Townsville.
 - AECOM (2022a). Rainfall Event Sampling Factual Report, January 2022. PFAS OMP – RAAF Base Townsville.

- AECOM (2022b). Annual Interpretive Report 2021. PFAS Ongoing Monitoring Program – RAAF Base Townsville.
- AECOM (2022c). Wet Season Sampling Factual Report. April 2022. PFAS OMP – RAAF Base Townsville.
- AECOM (2023a). Dry Season Sampling Factual Report, October and December 2022. PFAS OMP – RAAF Base Townsville.
- AECOM (2023b). Site Management Plan. PFAS Ongoing Monitoring Program – RAAF Townsville.

3.1.4 Step 4 – Define the Boundaries of the Study

The spatial and temporal boundaries that apply for data collection are detailed below and will influence the decision-making process for ongoing monitoring:

- The spatial boundary for data collection and decision making is the Base and the wider Monitoring Area. Refer to **Appendix A** for all sampling locations.
- The sampling completed as part of the SAQP includes groundwater, sediment and surface water, at the frequencies defined in **Section 4.3**.
- The monitoring is undertaken biannually until April 2024 (as outlined in the OMP, Department of Defence, 2019).

The SAQP will also cover the primary implementation period of the OMP (Defence, 2019). The SAQP will also cover the extent required by specific characteristics of the Base and surrounds, and behaviour of the plume, measured against specified data trends.

3.1.5 Step 5 – Develop the Analytical Approach

The decision rules can be defined as:

- Analytical selection: all samples will be analysed for the extended PFAS suite.
- Analytical method selection for PFAS is based on achieving appropriate laboratory limit of reporting (LOR) in the various media to be analysed. Standard LORs will be used for the OMP Implementation which are appropriate for meeting the adopted screening criteria.
- Sample locations have been selected with the objective of monitoring PFAS trends (temporal and seasonal), providing early warning of changes in the migration of PFAS in surface water and groundwater.
- If the laboratory quality assurance/quality control data are within the acceptable ranges, the data will be considered suitable for use.
- If PFAS concentrations are reported above the laboratory LOR, where it was previously <LOR, then it will be considered whether further assessment of the data is required.
- If the PFAS is reported at a concentration that is consistently above the adopted screening criteria, then it will be considered that further assessment is required.
- If the PFAS is reported at a concentration that is inside a trigger value or acceptable range, then it will be considered whether monitoring is continued or reduced, this assessment will be undertaken after three years of monitoring.

The decision on the acceptance of the analytical data will be made on the basis of the Data Quality Indicators (DQIs) as follows:

- **Precision:** A quantitative measure of the variability (or reproducibility) of data.
- **Accuracy:** A quantitative measure of the closeness of reported data to the “true” value.
- **Representativeness:** The confidence (expressed qualitatively) that data are representative of each media present on site.
- **Completeness:** A measure of the amount of useable data from a data collection activity.

- **Comparability:** The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event.

Table 4 provides further specific details.

3.1.6 Step 6 – Specify Performance or Acceptance Criteria

Specific limits for the works included in the OMP (Defence, 2019) are in accordance with the appropriate guidance made or endorsed by state and national regulations, appropriate indicators of data quality, and standard procedures for field sampling and handling.

This step also examines the certainty of conclusive statements based on the available new data collected. This should include the following points to quantify tolerable limits:

- A decision can be made based on a certainty assumption of 95% confidence in any given data set. A limit on the decision error will be 5% that a conclusive statement may be a false positive or false negative.
- A decision error in the context of the decision rule presented above would lead to either underestimation or overestimation of the risk level associated with a particular sampling area.
- Sampling errors may occur when the sampling program does not adequately detect the variability of a contaminant from point to point across the Base. To address this, the OMP outlines minimum numbers of samples proposed to be collected from each media.
- As such, there may be limitations in the data if aspects of the OMP cannot be implemented. Some examples of this scenario include but are not limited to:
 - Proposed surface water sample locations may be dry at the time of sampling.
 - Proposed groundwater well locations are damaged or destroyed and therefore cannot be sampled.
 - Proposed samples are not collected due to access being restricted to a given location.
- Measurement errors can occur during sample collection, handling, preparation, analysis and data reduction. To address this the following measures are proposed:
 - Collection of sufficient sample mass to facilitate analysis reported to standard laboratory detection limits. Collection of insufficient sample mass may result in raised detection limits.
 - Field staff to follow a standard procedure when collecting samples, including decontamination of tools, and use of appropriate sample containers and preservation methods.
 - Laboratories to follow a standard procedure when preparing samples for analysis and undertaking analysis. LOR may be increased for saline samples due to matrix interference for higher salinity samples.
 - Laboratories to report quality assurance/ quality control data for comparison with the DQIs established for the SAQP.

Table 4 provides acceptance criteria.

3.1.7 Step 7 – Optimise the Design for Obtaining Data

The methodology presented in this SAQP is designed to meet the project objectives described in Section 1.2 and to achieve the nominated DQOs. Optimisation of the data collection process will be achieved by:

- Working closely with the analytical laboratories and sampling equipment suppliers to ensure that appropriate procedures and processes are developed and implemented prior to and during the fieldwork, to ensure that sample handling, and transport to and processing by the analytical laboratories is appropriate;
- Conducting sampling according to Defence and Australian Standards for the type of sampling being conducted (i.e., groundwater monitoring well sampling versus landholder bore water sampling). These standards are as follows:

- Defence (2018 amended June 2021), DCMM.
- Standards Australia (AS/NZS5667.11–1998) *Water Quality – Sampling, part 11: Guidance on sampling of groundwater*;
- Standards Australia (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds*;
- Standards Australia (AS 4482.2-1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances*;
- Conducting sampling in accordance with AECOM's internal PFAS Sample Collection Guidance;
- Sampling conducted by suitably qualified and experienced field staff;
- Basing the sampling upon a CSM developed using the information available at the implementation of the SAQP. Updating the CSM as new data becomes available in the course of the implementation of the SAQP, as required; and
- Progressive review of the data throughout the bi-annual OMP period and modification of sampling programs to optimise the value of data generated.

If the objectives of the SAQP are not being met, the sampling design and approach will be reviewed and amended, as required.

3.2 Assessment of Data Quality

The quality of data collected as part of the sampling will be assessed on a range of factors including:

- Documentation and data completeness; and
- Data quality – comparability, representativeness, precision and accuracy of the analytical data.

The project target for data completeness is to achieve 95% of data as suitable for use.

The acceptance criteria for DQIs for samples are specified in **Table 4**.

Table 4 Acceptance Criteria for Data Quality Indicators for Sample Analysis

Data Quality Indicators	Acceptance Criteria
Water and Sediment Samples	
Rinsates (where sampling equipment is reused)	Less than the laboratory LOR.
Field duplicates/Inter-lab duplicates	<p>The Relative Percentage Differences (RPDs) will be assessed as acceptable if less than or equal to 30% as per the NEPM Schedule B3. Where the results show greater than 30% difference a review of the cause will be conducted (NEPM, 2013). It is noted that RPDs that exceed this range may be considered acceptable where:</p> <ul style="list-style-type: none"> • Results are less than 10 times the LOR (no limit); • Results are less than 20 times the LOR and the RPD is less than 50%; and • Heterogeneous materials are encountered.
Trip blanks and field blanks	Less than the laboratory LOR.
Laboratory duplicates	<p>RPDs less than:</p> <ul style="list-style-type: none"> • 20% for high level laboratory duplicates (i.e. >20 x LOR); and • 50% for medium level laboratory duplicates (i.e. 10 to 20 x LOR).
Matrix spikes	Recoveries between 70-130% of the theoretical recovery or as nominated in the laboratory's QC report, based on their historical database.
Method blanks	Less than the laboratory LOR.
Laboratory control samples	Recoveries between laboratories specified range for each particular analyte/analytical suite.

4.0 Sampling Location Rationale and Methodology

4.1 OMP

The OMP (Defence, 2019) presents an overview of specific monitoring works to be undertaken and provides the basis for the preparation of this SAQP. This scope of works presented in this SAQP is consistent with that detailed in the OMP (Defence, 2019).

4.2 Proposed Schedule

4.2.1 Sampling Events

Groundwater, sediment and surface water sampling from across the Monitoring Area will be performed biannually until April 2024 as part of a comprehensive wet season sampling event in April and a targeted dry season sampling event in October.

The proposed schedule of fieldworks is presented in **Table 5** below. Further revision of the SAQP sampling schedule and requirements will be undertaken based on the OMP review, proposed to be completed by mid-2023.

Table 5 Proposed Fieldwork Schedule

Sampling Round No.	Description of works	Proposed Schedule
1	Wet season groundwater, sediment and surface water sampling	April 2020
2	Dry season groundwater, sediment and surface water sampling	September 2020
3	Wet season groundwater, sediment and surface water sampling	April 2021
4	Dry season groundwater, sediment and surface water sampling	October 2021
5	Wet season groundwater, sediment and surface water sampling	April 2022
6	Dry season groundwater, sediment and surface water sampling	October 2022
7	Wet season groundwater, sediment and surface water sampling	April 2023
8	Dry season groundwater, sediment and surface water sampling	October 2023
9	Wet season groundwater, sediment and surface water sampling	April 2024
As required	Rainfall event-based surface water sampling	Once per calendar year

4.3 Sample Location Rationale

4.3.1 Groundwater Sampling Locations Rationale

There are 107 groundwater monitoring wells identified for ongoing monitoring. These monitoring wells are located across the Base, Townsville City Council (TCC) controlled roadways and public spaces, and within the protected Townsville Town Common and Rowes Bay Wetlands. Permission to work in TCC roadways is managed under a Traffic Management Plan with a permit obtained from the Council for this purpose. Notification to the Department of Environment and Science (DES) is required for access to the Town Common and to obtain the key to the area from Queensland Parks and Wildlife Services. No formal permits are required for collection of environmental samples under this SAQP.

The rationale for monitoring well selection for each area is summarised in **Table 6**.

Table 6 Rationale for Groundwater Monitoring Locations

Area	Rationale
On-Base	<ul style="list-style-type: none"> • Monitor spatial and temporal variations in PFAS concentrations in groundwater concentrations up, down and cross-gradient of source areas; and • Assess if groundwater PFAS concentrations in bores down-gradient of the source areas change in response to management measures over time.
Off-Base: Townsville Town Common	<ul style="list-style-type: none"> • Monitor spatial and temporal variations in PFAS concentration in the groundwater down-gradient of the Base; • Assess if groundwater PFAS concentrations in bores to the north of the Base change in response to management measures over time; • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations; • Monitor groundwater adjacent to Louisa Creek to assess PFAS migrating from the drainage channels and Louisa Creek to groundwater; and • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-Base: Rowes Bay Wetlands	<ul style="list-style-type: none"> • Monitor spatial and temporal variations in PFAS concentration in the groundwater down-gradient of the Base; • Assess if groundwater PFAS concentrations in bores to the north east of the Base change in response to management measures over time; • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations; and • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-Base: Bohle River and Bohle Industrial Estate	<ul style="list-style-type: none"> • Monitor background variations in PFAS concentration in the groundwater up-gradient of the Base; • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations.
Off-Base: Pallarenda Residential	<ul style="list-style-type: none"> • Monitor spatial and temporal variations in PFAS concentration in the groundwater down-gradient of the Base; • Assess if groundwater PFAS concentrations in bores to the north of the Base change in response to management measures over time; • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations; and • Monitor groundwater parallel and perpendicular to the PFAS plume to assist with understanding concentrations changes in these alignments.
Off-Base: Belgian Gardens and Garbutt	<ul style="list-style-type: none"> • Monitor variations in PFAS concentration in the groundwater immediately up-gradient of the Base; • Continue to monitor groundwater bores with existing temporal datasets to assist with better understanding of temporal patterns in PFAS concentrations.

4.3.2 Groundwater Gauging Locations

Locations specified in **Table 7** are proposed to be gauged prior to each sampling event and presented in **Figure 1** in **Appendix A**.

Following the October 2022 sampling event, the groundwater monitoring wells selected for gauging were updated to allow for more representative data input to groundwater contour interpretation. Changes are outlined in **Table 8** and monitoring wells of similar depths have been selected to ensure standing water level (SWL) data is collected from the same aquifer and provide increased accuracy to groundwater contour data collected where previous monitoring wells have been removed.

Table 7 Groundwater Gauging locations

Management/Source Area	Gauging location wet/dry season
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW118
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW016, MW046, MW055
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009, MW114, MW247
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW244
East and south east of Sub-Management Area 1	MW063, MW223, MW232
Balance of Base area	MW002, MW004, MW056, MW135, MW241, MW300
Townsville Town Common, north of the Base	MW205, MW206
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW212, MW214, MW216, MW264
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW221, MW225

Table 8 Changes to groundwater gauging locations

Management/Source Area	Gauging location removed	Gauging location added
Sub-Management Area 1 – includes a Former Fire Training Area.	MW116	MW013, MW118 added to replace decommissioned well.
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base		MW264 added to enable more accurate calculation of groundwater contours.

4.3.3 Groundwater Sampling Locations

The groundwater locations to be monitored as part of the wet and dry season sampling events are provided in **Table 9** and **Table 10** below and are presented in **Figure 2a** (On-Base) and **Figure 2b** (Off-Base) in **Appendix A**.

Table 9 Groundwater sampling locations- On-Base

Management/Source Area	Monitoring locations dry season	Monitoring locations - wet season	Number of locations	
			Dry	Wet
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013 ² and MW118 ¹	Same as dry season	2	2
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005 ¹ , MW015 ¹ , MW016 ¹ , MW021 ¹ , MW046 ¹ , MW054 ¹ , MW055 ¹ , MW081 ¹ , MW090 ² , MW109 ¹ , MW110 ^{1,2} , MW138 ¹ , MW139 ^{1,2} , MW246 ¹ , MW250 ² , MW251	Same as dry season	16	16
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009 ^{1,2} , MW038 ² , MW043 ^{1,2} , MW114 ^{1,2} , MW125 ¹ , MW142 ¹ , MW247 ^{1,2} , MW248 ¹	Same as dry season	8	8
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140 ¹ , MW243 ¹ , MW244 ¹	Same as dry season	4	4
North west of Runway 07/25	MW112 ³	Same as dry season	1	1
East and south east of Sub-Management Area 1	MW026 ¹ , MW033 ¹ , MW034 ¹ , MW061 ¹ , MW063 ¹ , MW120 ¹ , MW222, MW223, MW224, MW232	Same as dry season	10	10
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229	Same as dry season plus MW228	3	4
Balance of Base area	MW002 ¹ , MW004 ¹ , MW056 ¹ , MW057 ¹ , MW122 ¹ , MW135 ¹ , MW234, MW241, MW242 ¹ , MW245 ¹ , MW255, MW265, MW300, MW470 ¹	Same as dry season plus MW235	14	15
Total			58	60

¹Locations conflicting with the Water Quality Monitoring Program.²Locations where data loggers are present.

Table 10 Groundwater sampling locations- Off-Base

Catchment Area	Monitoring locations dry season	Monitoring locations- wet season	Location Number	
			Dry	Wet
Off-Base – Townsville Town Common, north of the Base	MW205, MW206, MW207, MW208	Same as dry season plus MW201, MW202, MW203, MW204	4	8
Off-Base – Bohle River and Bohle Industrial Estate, west of the Base	Nil	MW231, MW237, MW238, MW239 ² , MW240, MW254 MW262	0	7
Off-Base – Suburb of Pallarenda, north east of the Base	MW233, MW252, MW253, MW301	Same as dry season	4	4
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW264, MW467, MW471	Same as dry season plus MW256, MW261	9	11
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW221, MW225, MW263, MW267 ¹	Same as dry season plus MW220 ² , MW236, MW257, MW258, MW259, MW260, MW266, MW268, MW269, MW270	7	17
Total			24	47

¹Locations conflicting with the Water Quality Monitoring Program

4.3.4 Sediment Sampling Locations Rationale

The sediment locations to be monitored as part of the wet and dry season sampling events are provided in **Table 11** and **Table 12** below and are presented in **Figure 3a** and **Figure 3b** in **Appendix A**.

4.3.5 Sediment Sampling Locations

Table 11 Sediment sampling locations- On-Base

Catchment Area	On-base Sediment Sampling Locations	Number of Locations
Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132	5
Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126, SD131	9
Three Mile Creek Catchment	SD102	1
Total		15

Table 12 Sediment sampling locations- Off-Base

Catchment Area	Sediment Sampling Locations	Location Number
Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209	11
Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207,	14
Three Mile Creek Catchment	SD107, SD210	2
Total		27

4.3.6 Surface Water Sampling Locations Rationale

The surface water locations to be monitored as part of the wet and dry season sampling events are provided in **Table 13** and **Table 14** below and are presented in **Figure 3a** and **Figure 3b** in **Appendix A**. These locations have been selected to maintain consistency with the recent monitoring completed within the Monitoring Area (WSP, 2019a; WSP, 2019b). Surface water locations are co-located with sediment sampling locations, and surface water will be collected where present.

Rainfall event-based sampling will be completed in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period at the locations nominated in **Table 13** and **Table 14** below. Samples will be collected every day for five consecutive days. One rainfall event-based sampling round will be completed per calendar year. Rainfall event-based sampling locations are presented in **Figure 4** in **Appendix A**.

4.3.7 Surface Water Sampling Locations

Table 13 Surface water sampling locations- On-Base

Catchment Area	Surface water sampling locations	Number of Locations
Mundy Creek Catchment	SW001, SW010 ¹ , SW106, SW121 ¹ , SW132 ¹	5
Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014 ¹ , SW016 ¹ , SW019, SW112 ¹ , SW123 ¹ , SW125 ¹ , SW126, SW131 ¹	9
Three Mile Creek Catchment	SW102 ¹	1
Total		15

¹Denotes location to be sampled for the Rainfall Sampling Event

Table 14 Surface water sampling locations- Off-Base

Catchment Area	Surface water sampling locations	Number of Locations
Mundy Creek Catchment	SW108 ¹ , SW109 ¹ , SW113, SW114, SW115 ¹ , SW116 ¹ , SW117 ¹ , SW118 ¹ , SW119, SW208, SW209	11
Bohle River / Louisa Creek / Townsville Town Common	SW017 ¹ , SW021, SW110, SW111, SW120, SW127 ¹ , SW129 ¹ , SW201, SW202, SW203, SW204, SW205, SW206, SW207	14
Three Mile Creek Catchment	SW107, SW210	2
Total		27

¹Denotes location to be sampled for the Rainfall Sampling Event

4.4 Sample Collection and Handling

4.4.1 Groundwater Sampling

The groundwater sampling methodology and schedule are presented in **Table 15**.

Table 15 Groundwater sampling methodology and schedule

Item	Details
Groundwater gauging	The depth to groundwater will be measured at the beginning of each sampling round, commencing with on Base wells and moving to off-Base locations and finishing with tidally influenced wells along the coastline and waterways. Groundwater wells will also be gauged immediately prior to the collection of groundwater samples.
Sample Collection Methodology	Groundwater samples will be collected from all monitoring wells using no-purge methodology HydraSleeves™ as follows <ul style="list-style-type: none"> Where a HydraSleeve™ is used for sample collection, the target interval depths should be recorded. The HydraSleeve™ should not sit at the base of a monitoring well where sediment may be present. HydraSleeve™ sampling devices are to be left in monitoring wells for a minimum of 4 hours when deployed with bottom weights only, to allow restabilisation of the well following the slight disturbance caused by sampler deployment. For HydraSleeves™ with both top and bottom weights, they are to be deployed and left in the well for a minimum of 24 hours, to allow restabilisation of the well and for the top weight to compress. Well construction details are provided in Appendix C . Once sampling is completed, new HydraSleeves™ will not be redeployed. Selected locations will have HydraSleeves™ deployed without a collar due to retrieval difficulties in the previous sampling round (MW246 and MW255). This action will be completed for all sampling rounds. A decontaminated steel bailer is to be used where insufficient water volume is available to collect samples via HydraSleeves™. Where a bailer is used, three well volumes will be removed as per Standard Operating Procedures prior to sample collection.
Field Parameters	Field parameters Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality will be recorded for all samples. Field parameters are collected ex-situ post sampling using water from the HydraSleeve™. Where a bailer is used, field parameters will be recorded after removal of each well volume.
Sampling Schedule	The monitoring across the investigation area will include two monitoring events, as detailed below: Wet Season: 107 monitoring wells across the Base and surrounding areas. Dry Season: 82 monitoring wells across the Base and surrounding areas.

4.4.2 Surface Water Sampling

The surface water sampling methodology and schedule are presented in **Table 16**.

Table 16 Surface water sampling methodology and schedule

Item	Details
Sample Collection Methodology	Samples to be collected from 0.5 m below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory supplied container will be lowered into the water with the cap immediately applied once the container is full. Where the waterway cannot be accessed from the bank a telescopic sampler with a stainless steel scoop will be used to collect the sample. The sample will then immediately be transferred into the new laboratory supplied container. Where required, a boat will be used to access some locations of the Bohle River.
Field Parameters	Temperature, EC, DO, ORP, pH and observations of water quality will be recorded for all samples. Field parameters are collected ex-situ post sampling using water from the stainless steel scoop.
Sampling Schedule	Surface water sampling will be conducted at 42 locations during both the wet and dry season sampling events. Samples collected will depend on the availability of water within the waterway. The rainfall triggered sampling event will include 19 locations as denoted in Table 13 and Table 14 .

4.4.3 Sediment Sampling

The sediment sampling methodology and schedule are presented in **Table 17**.

Table 17 Sediment sampling methodology and schedule

Item	Details
Sample Collection Methodology	Samples representative of potentially deposited sediments will be collected from within the water body, if possible. Sediment samples will be collected using a gloved hand, hand trowel (where possible) or sludge and sediment sampler, as appropriate to the sample being collected. At each location, a new laboratory supplied container will be used for each sample.
Sampling Schedule	Sediment sampling will be conducted at 42 locations during both the wet and dry season sampling events.

4.4.4 Laboratory Analysis and Quality Assurance/Quality Control Sampling

The following QA/QC sampling and laboratory analysis will be conducted for all samples as outlined in **Table 18** below.

Table 18 Laboratory Analysis and QA/QC Sampling

Item	Details
QA/QC samples to be collected	Field QA/QC samples are to include intra-laboratory duplicate and inter-laboratory duplicate, trip blank, field blank and equipment rinsate blank (rinsate) samples. Duplicate samples are to be collected at a minimum frequency of 1 in 10 primary PFAS samples. Laboratory supplied trip blanks will be included at a rate of one per batch of samples (excluding private property sampling) and will be prepared by filling sample containers with laboratory supplied PFAS free deionised water. Field blanks are to be collected at a rate of one sample per batch. Rinsate samples are to be collected at a rate of one sample per day of sampling when non-dedicated equipment is used by pouring laboratory supplied PFAS free deionised water over the decontaminated sampling equipment. Additional sample volume is required to be collected to enable the appropriate laboratory QA/QC for all water samples.
Sample Analysis	All primary samples will be submitted for PFAS extended suite using the standard levels of detection.

4.4.5 Sample Handling and Transport to Laboratory

AECOM personnel will attempt to reduce potential heterogeneity in the sample media matrix by dividing the sample collected between primary, intra- and inter-laboratory jars or bottles during sampling. All samples will be placed on ice in eskies immediately after sampling.

All samples will be kept, where possible, at or below 4°C during transit to the laboratory. Prior to sampling, assessment of the analytical holding times will be made, and the sampling planned accordingly to help ensure that holding times are not breached or are minimised as far as practicable.

Samples will be transported to the laboratory for analytical testing under standard chain of custody (CoC) documentation. Primary and associated duplicate QA/QC samples will be analysed by ALS Brisbane. The inter-laboratory duplicate samples will be analysed by Eurofins Environment Testing Australia Pty Ltd (Eurofins) in Brisbane.

4.5 Calibration

The water quality meter will be calibrated prior to the commencement of field activities in accordance with manufacturers' instructions or NATA publication "General Requirements for Registration: Supplementary Requirement: Chemical Testing (NATA 1993) and Technical Note No. 19 (NATA 1994)". The water quality meter will be bump tested each day prior to sampling with relevant solutions, including pH, EC, DO and ORP. Where satisfactory calibration/bump testing cannot be achieved, the water quality data will not be used for interpretive purposes.

Calibration certificates and bump test details will be recorded on field sheets and included in the Sampling Events Factual Reports.

4.6 Logistics

The laboratory sample containers will be collected from the laboratory prior to the commencement of fieldwork. All primary and intra-duplicate samples will be transported to ALS Townsville by the field team for forwarding to Brisbane. All inter-laboratory duplicate samples will be transported to Eurofins Townsville for forwarding to Brisbane under separate CoC documentation for analysis.

4.7 Analytical Suite and Laboratory Analysis Methods

4.7.1 Laboratory NATA Accreditation Details

The laboratory is required to use NATA accredited methods based on NEPM, US EPA, Table B 15 of the US Department of Defence/Department of Energy (US DOD/DoE) and American Society for Testing and Materials (ASTM) methods as appropriate.

The primary and secondary laboratories selected for this program are ALS (NATA Accreditation Number 825) and Eurofins (NATA Accreditation Number 1261), respectively.

4.7.2 Analytical Schedule

All media sampled shall be analysed for the extended PFAS suite as outlined in **Table 19** below.

Table 19 Sample Analytical Suite for PFAS

PFAS Group	Compound	CAS No.
Perfluoroalkyl Sulfonic Acids	Perfluorobutane sulfonic acid (PFBS)	375-73-5
	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4
	Perfluorohexane sulfonic acid (PFHxS)	355-46-4
	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8
	Perfluorooctane sulfonic acid (PFOS)	1763-23-1
	Perfluorodecane sulfonic acid (PFDS)	335-77-3
Perfluoroalkyl Carboxylic Acids	Perfluorobutanoic acid (PFBA)	375-22-4
	Perfluoropentanoic acid (PFPeA)	2706-90-3
	Perfluorohexanoic acid (PFHxA)	307-24-4
	Perfluoroheptanoic acid (PFHpA)	375-85-9
	Perfluorooctanoic acid (PFOA)	335-67-1
	Perfluorononanoic acid (PFNA)	375-95-1
	Perfluorodecanoic acid (PFDA)	335-76-2
	Perfluoroundecanoic acid (PFUnDA)	2058-94-8
	Perfluorododecanoic acid (PFDoDA)	307-55-1
	Perfluorotridecanoic acid (PFTTrDA)	72629-94-8
	Perfluorotetradecanoic acid (PFTeDA)	376-06-7
Perfluoroalkyl Sulfonamides	Perfluorooctane sulphonamide (FOSA)	754-91-6
	N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8
	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2
	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	2448-09-7
	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2
	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9
	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6
(n:2) Fluorotelomer Sulfonic Acids	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4
	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2
	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4
	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0

The current standard laboratory limits of reporting (LOR) are described in **Table 20** below.

Table 20 Laboratory Limits of Reporting

Sample Media	Parameter	Technique/Method Reference	LOR*
Groundwater and Surface Water	Extended PFAS Suite	LC/MS-MS	0.01 – 1.0 µg/L
Sediment	Extended PFAS Suite	LC/MS-MS	0.0002 – 0.001 mg/kg

LC/MS-MS = Liquid chromatography–mass spectrometry

*LOR for Australian Laboratory Services (ALS)

4.8 Sample Nomenclature

To meet Defence data management requirements, a consistent sample nomenclature has been adopted for the Program. All primary samples will be labelled using the following Defence Contamination Management Manual (DCCM) naming convention:

PPPP_XX000_YYMMDD

[property ID]_[type of sample][THREE DIGIT sample number]_[yearmonthday]

e.g. 0874_MW001_200401

Location types and codes are prescribed by Defence and the Bases' investigation history.

Primary Sample Types/Location Codes relevant to this OMP include:

- MW = monitoring well;
- SW = surface water - no depth required;
- SD = sediment – no depth required as all sediment samples will be from surface.

QA/QC Samples will be labelled in accordance with the following convention:

- Duplicate: PPPP_QC1XX_YYMMDD;
- Triplicate: PPPP_QC2XX_YYMMDD;
- Rinsate: PPPP_QC3XX_YYMMDD;
- Trip blank: PPPP_QC4XX_YYMMDD;
- Field blank: PPPP_QC5XX_YYMMDD.

4.9 Defence ESdat Requirements

Defence has contracted Earth Science Information Systems (ESClS), to provide contamination data management services through a cloud instance of its ESdat product.

All OMP field and laboratory data collected by AECOM will be uploaded, stored and managed in Defence's ESdat database in accordance with Section 6 of DCMM Annex L (Defence, 2018, amended June 2021). AECOM will refer to historical investigation data to ensure consistent location codes are used to enable analysis of data trends. Where required under Annex L, non-compliant location codes will be resolved under direction from Defence.

AECOM will upload the data from each monitoring event into ESdat prior to submitting the Sampling Event Factual Report.

4.10 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance.

At the time of preparing this SAQP, a number of guidance documents were in circulation in Australia including:

- HEPA, (2020), PFAS NEMP 2.0.
- NEPC, (1999, as amended 2013) NEPM.
- DoH, (2019), Health Based Guidance Values for PFAS for use in site investigations in Australia.
- NHMRC, (2019), Guidance on PFAS in Recreational Water.

The adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 21** below.

Table 21 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking Water	PFOS + PFHxS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). Where the guideline value refers to the sum of PFOS + PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). <i>All off base groundwater results will be compared to these criteria.</i>
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from the PFAS NEMP, (HEPA, 2020). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP, (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no current HEPA (2020) endorsed guideline values for PFAS in sediment.

4.11 Waste Management

Due to the proposed “no purge” sampling methodology, it is not anticipated that significant volumes of liquid waste would be generated that would require management or disposal.

Wastewater generated from HydraSleeve™ sampling will be returned to ground next to the well it was collected from or returned to the well if located on hardstand. If large volumes (greater than 1 L) of wastewater are generated this will be collected in a plastic drum for disposal by a licenced contractor.

No waste soil will be generated due to the proposed grab sampling approach.

All consumables (i.e., HydraSleeve™, general rubbish) will be bagged and placed in general waste bins for disposal.

4.12 Quality Assurance/Quality Control Sampling

4.12.1 Field Duplicate and Inter-laboratory Duplicate Samples

Field duplicate (intra-laboratory) samples and triplicate (inter-laboratory field duplicates) for PFAS analysis will be collected and analysed at a minimum frequency of 1 in 10 primary samples.

4.12.2 Rinsate Samples

Rinsate samples are to be collected at a rate of one sample per fieldwork day by pouring laboratory supplied deionised water over the decontaminated sampling equipment.

4.12.3 Trip Blank Samples

Trip blank samples will be supplied by the laboratory and placed in the eskies used to transport the samples at a rate of one per batch of samples delivered to the laboratory. The trip blank samples will be analysed for PFAS to assess if any contaminants have entered the sample containers during transit to the laboratory or within the container itself.

4.13 Fieldwork Documentation

4.13.1 Field Notes

Field notes will be collected electronically and maintained to record all field sampling events and include observations made at each sample location. Field notes will include information specific to the sample media as follows:

- Groundwater gauging and sampling- date and time of gauging, HydraSleeve™ installation and sampling will be recorded at each sampling location.
- Groundwater and surface water samples – comments on the observed characteristics of the sample (e.g., colour, turbidity, odour, sheen) and reported field water quality parameters (pH, EC, DO, ORP, temperature) will be recorded.
- Surface water and sediment samples - comments on the morphology of the sample location, the depth, flow direction and strength of water flow (if water is present), the water and sediment/soil colour and odour, and the presence of flora and fauna. The soil/sediment types observed at each sample location will be described using the Unified Soil Classification System (USCS).

The coordinates for each sample location will be noted. The location of quality control (e.g., duplicate and inter-laboratory duplicate) sample collection points will also be noted.

AECOM's tablet-based data capture ('EDCA') system will be utilised by field staff to minimise potential data recording errors and allow on-the-spot identification of potentially erroneous data in comparison to historical data.

4.13.2 Sample Labels

AECOM will utilise the tablet-based ALS 'Compass' sample management application to streamline sample labelling and chain of custody (CoC) creation to ensure compliant sample IDs are used in the field.

Sample containers will also be labelled with the sample ID as a failsafe method.

A ball point pen will be used for labelling, to ensure PFAS is not introduced to the samples from permanent markers.

4.13.3 Chain of Custody Forms

A CoC form will be completed, documenting the sample identification number and analytes. The CoC documents the chain of events from sample collection to delivery at the laboratory and provides a traceable account of sample handling. The CoC form will be signed by both the sample collector and the receiving laboratory. The CoC will be generated electronically using the ALS Compass app to reduce potential transcription errors.

The CoC form will include the following information:

- Job number (Note: the name of the Base is not identified for confidentiality purposes);
- Defence ESdat database reference (i.e., QLD_0874_PFASOMP);
- Date and time of sample collection;
- Sample ID;
- Type of containers;
- Name of sampler;
- Laboratory to be used;

- Analyses required;
- Any comments; and
- Signatures of the sampler and laboratory receiver.

In the event that additional samples are collected during the field investigations due to observations made by the Field Team, (i.e., samples not proposed in this SAQP), Defence will be provided the rationale for collection of those samples and proposed laboratory analyses. Defence approval will be sought to include these samples on the CoC and to dispatch these samples to the laboratory for analysis.

Upon receipt of the original documents accompanying the samples at the laboratory, the laboratory will provide a sample receipt document (noting the temperature of samples upon receipt, analyses required and any non-conformances) and return the signed CoC form to confirm analyses to be performed and the due date for the analytical results.

4.13.4 Sampling Documentation

Field sampling sheets will be completed for each location, and will include the following information (as appropriate for the media being sampled):

- Name of sampler;
- Sample location;
- Date /time of monitoring/ sampling;
- Sampling method;
- Observations of the sampled media; and
- Calibration records.

Records of all equipment calibration will be included in the Sampling Event Factual Reports. Photographs of surface water sampling locations will be taken where permitted.

4.14 Reporting

4.14.1 Sampling Event Factual Report

No later than four weeks following receipt of the laboratory reports, AECOM will prepare and submit a Sampling Event Factual Report to Defence. Each Sampling Event Factual Report will include:

- Details of the scope of monitoring completed;
- A description of the sampling methodologies used;
- A summary of observations made while sampling (e.g., recent weather conditions, any visual or olfactory observations that may indicate impacts to surface water or groundwater, or any estate management works or training activities that may have the potential to impact sampling or data);
- A summary of any changes to the monitoring network condition that may affect data integrity, or require rectification works, and recommendations for repair, replacement or decommissioning of a location;
- A presentation of the analysis results in a table that includes comparisons with PFAS guidelines, highlighting any significant statistical deviations from historical monitoring and investigation data, and identifying any locations with first-time detections of PFOS + PFHxS or POFA or new exceedances of guideline values;
- A presentation of the relative groundwater levels for the event on a figure with inferred contours and inferred groundwater flow direction;
- Discussion of the analytical data quality, including review of the quality control sampling results and laboratory quality control data; and
- Inclusion of the following information as attachments:

- Figures;
- Tables;
- Sampling logs and forms including field water quality parameter measurements;
- Chain of custody forms;
- Laboratory analytical certificates and QA/QC reports; and
- Equipment calibration certificates.

4.14.2 Annual Interpretive Report

At the end of each 12-month monitoring period, AECOM will prepare and submit an Annual Interpretive Report to Defence. Each Interpretive Report will include:

- Evidence of compliance with the requirements of the SAQP and meeting stated objectives of the OMP (Defence, 2019);
- Relevant figures depicting sampling locations and site-specific hydrogeological features;
- Laboratory results and analysis including comparison with relevant screening criteria as identified in the OMP (Defence, 2019);
- Assessment and commentary on appropriate QA/QC procedures;
- A review of the CSM and provision of a revised CSM if required;
- Data interpretation, including trends in groundwater concentration, gradient and flow directions;
- Assessment of statistically based trends that may inform decision making when it comes to the revision of the OMP (Defence, 2019); and
- A statement as to whether the risk profile has changed overall, or for any specific location on the Base or within the Monitoring Area, and a recommendation as to whether this should trigger an OMP and/or PMAP review, or other action.

4.15 Deviation from OMP

While the scope of works and methodology described in this SAQP are generally consistent with that presented in the OMP (Defence, 2020), deviations as a result of subsequent sampling events may occur as a result of review of recommendations made in the Sampling/Rainfall/Wet Season/Dry Season Event Reports (AECOM, 2020; AECOM 2021a, 2021b, 2021c, 2021e, 2021f and 2022a, 2022c, 2023a) and annual interpretive reports (AECOM, 2021d and 2022b) and are summarised in **Table 22** below.

Table 22 Deviations from OMP

No	Description	Rationale for deviation	Source
1	Sample from MW049, MW121, MW249	MW049, MW121, MW209, MW230 and MW249, have been removed from the SAQP as these wells are no longer serviceable and alternative replacement wells are not available.	AECOM (2020) Sampling Event Factual Report, April 2020.
2	Sample from MW230 and MW209	MW300 and MW301 replace MW230 and MW209 respectively as the old wells are no longer serviceable.	AECOM (2020) Sampling Event Factual Report, April 2020.
3	Former location codes identified in the OMP were not compliant with ESdat	The location codes have been updated in ESdat.	SAQP Revision 1 (AECOM, February 2021)
4	Sample from MW210	MW210 is to be substituted with alternative well MW471	AECOM (2021a). Sampling Event Factual Report, September 2020.
5	Inclusion of the gauging round	The OMP did not include gauging of selected wells rather all wells in the program. It is not physically possible to gauge all the wells in the program within a 24-hour period, therefore a selection of wells appropriate to producing groundwater contour maps has been identified to enable gauging of wells within one day.	SAQP Revision 7 (AECOM, September 2022)
6	Inclusion of drinking water guidelines	Drinking water guidelines were not included in the OMP Assessment of results against drinking water criteria but have been requested by Defence and therefore included in the SAQP.	SAQP Revision 7 (AECOM, September 2022)
7	Sample from MW116, MW126 and MW129	MW116, MW126 and MW129 have been removed from the SAQP as these wells are no longer serviceable and alternative replacement wells are not available.	AECOM (2023a) Dry Season Sampling Factual Report, October and December 2022.

5.0 References

- AECOM Australia Pty Ltd (AECOM) (2019). Stage 1 Preliminary Site Investigation – RAAF Base Townsville (0874), March 2019, Rev C.
- AECOM (2020). Sampling Event Factual Report, April 2020. PFAS OMP - RAAF Base Townsville. July
- AECOM (2021a). Sampling Event Factual Report, September 2020. PFAS OMP - RAAF Base Townsville. January
- AECOM (2021b). Rainfall Event Sampling Factual Report, December 2020. PFAS OMP – RAAF Base Townsville. May
- AECOM (2021c). Rainfall Event Sampling Factual Report, February 2021. PFAS OMP – RAAF Base Townsville. May
- AECOM (2021d). Annual Interpretive Report 2020, PFAS OMP - RAAF Base Townsville. June
- AECOM (2021e). Sampling Event Factual Report. April 2021. PFAS OMP - RAAF Base Townsville. September
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- AECOM (2022b). Annual Interpretive Report 2021. PFAS Ongoing Monitoring Program – RAAF Base Townsville. August
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- AECOM (2023a). Dry Season Sampling Factual Report, October and December 2022. PFAS OMP – RAAF Base Townsville. February
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- Defence (2018, amended June 2021). Defence Contamination Management Manual.
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- National Environment Protection Council [NEPC]. (1999, as amended May 2013). National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guideline on Site Characterisation.
- National Health and Medical Research Council (NHMRC). (2019). Guidance on PFAS in Recreational Water.
- Standards Australia (1998). AS/NZS 5667.11–1998: Water Quality - Sampling - Guidance on Sampling of Groundwaters.
- Standards Australia (AS 4482.1-2005) *Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds;*

Standards Australia (AS 4482.2-1999) *Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile Substances*;

State of Queensland (2019). Environmental Protection (Water and Wetland Biodiversity) Policy.

United States Environmental Protection Agency (US EPA). (2006). Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4: EPA/240/B-06/001).

WSP Australia Pty Limited (WSP) 2018a. RAAF Base Townsville Detailed Site Investigation – PFAS. May

WSP 2018b. RAAF Base Townsville Human Health Risk Assessment (HHRA). October

WSP 2019a. RAAF Townsville - Seasonal Monitoring Report 1 – PFAS. December

WSP 2019b. RAAF Townsville - Seasonal Monitoring Report 2 – PFAS. December

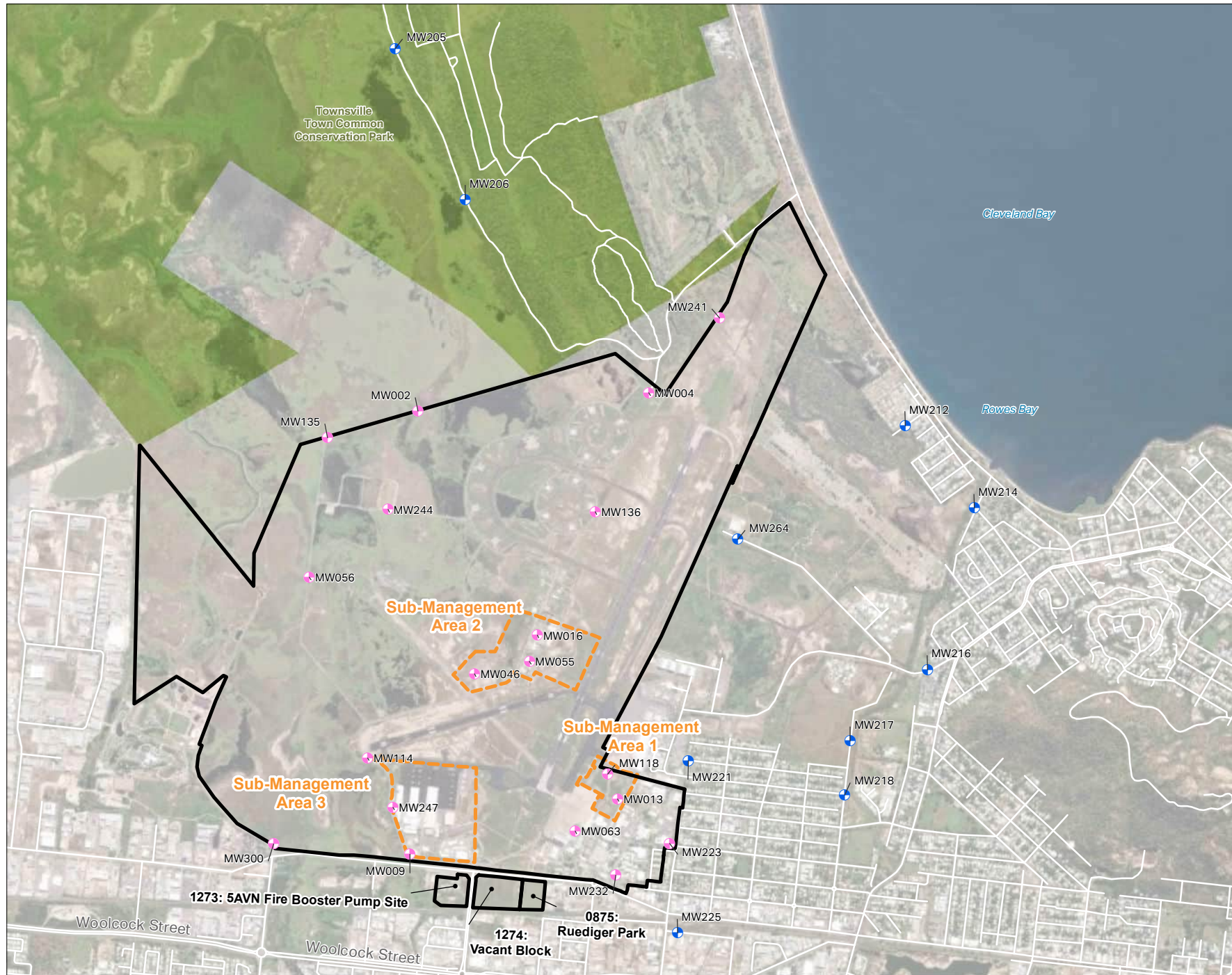
WSP 2019c. RAAF Townsville – Ecological Risk Assessment (ERA). December

Appendix A

Figures

Legend

- Management
- Sub-Management
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE 1:
GROUNDWATER
GAUGING LOCATIONS
(WET AND DRY SEASON)**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
(0874), Sampling Analysis Quality
Plan
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data, (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management Area
- Sub-Management Area
- Off-base Monitoring Well
- Locations that require traffic management



**FIGURE 2b:
OFF-BASE
GROUNDWATER
SAMPLING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville (0874), Townsville
Sampling Analysis Quality Plan
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar, Geographic, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management Area
- Sub-Management Area
- On-base monitoring well
- Key required
- Specific approval required

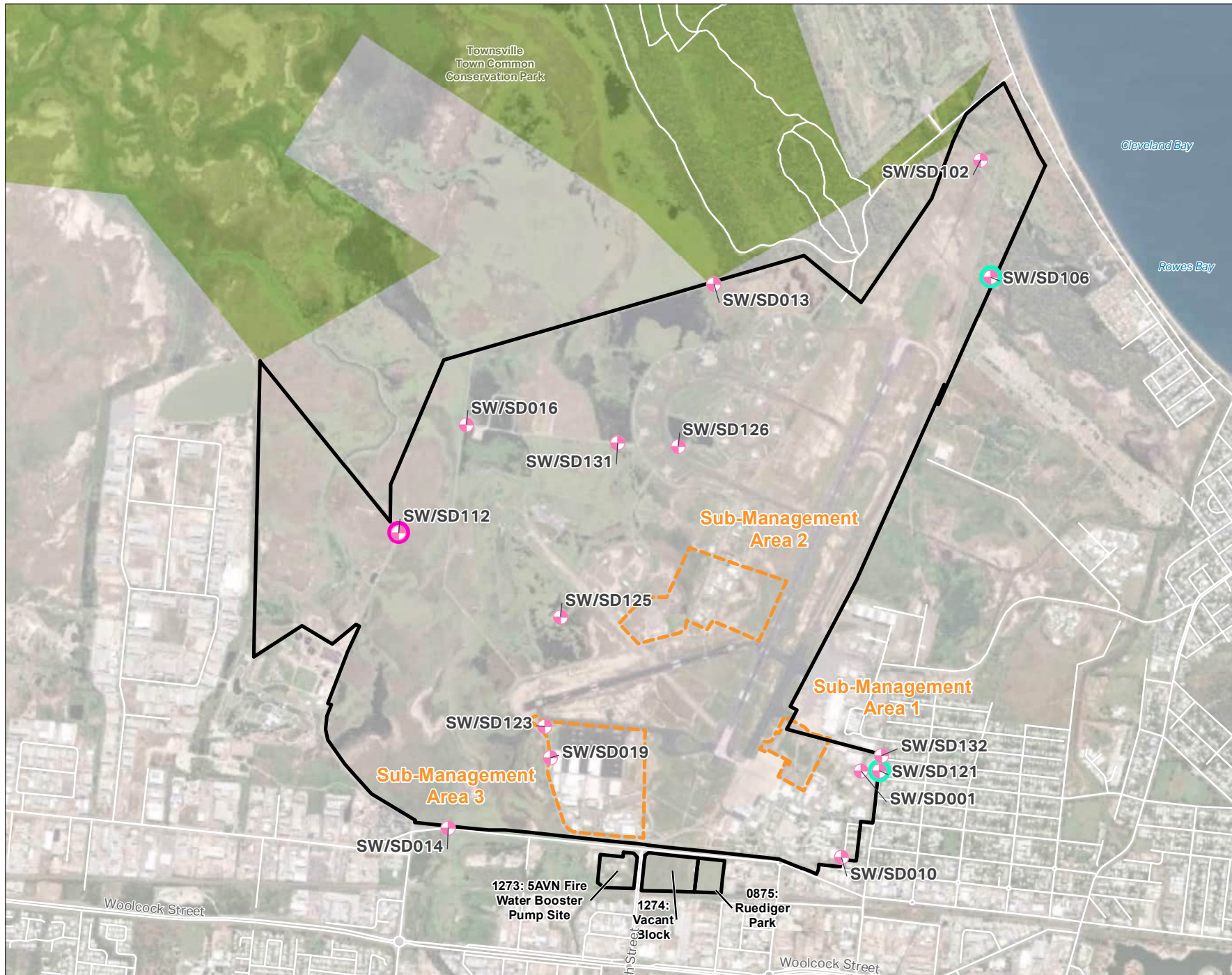


FIGURE 3A:
ON-BASE CO-LOCATED
SURFACE WATER AND
SEDIMENT SAMPLING
LOCATIONS

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
(0874)
Sampling Analysis Quality Plan
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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USDA, USGS, AeroGRID, IGN and the GIS User



Legend

- Management Area
- Sub-Management Area
- + On-base monitoring well
- Airside escort required
- Boat access
- Key required
- Specific approval required

**FIGURE 3B:
OFF-BASE CO-LOCATED
SURFACE WATER AND
SEDIMENT SAMPLING
LOCATIONS**

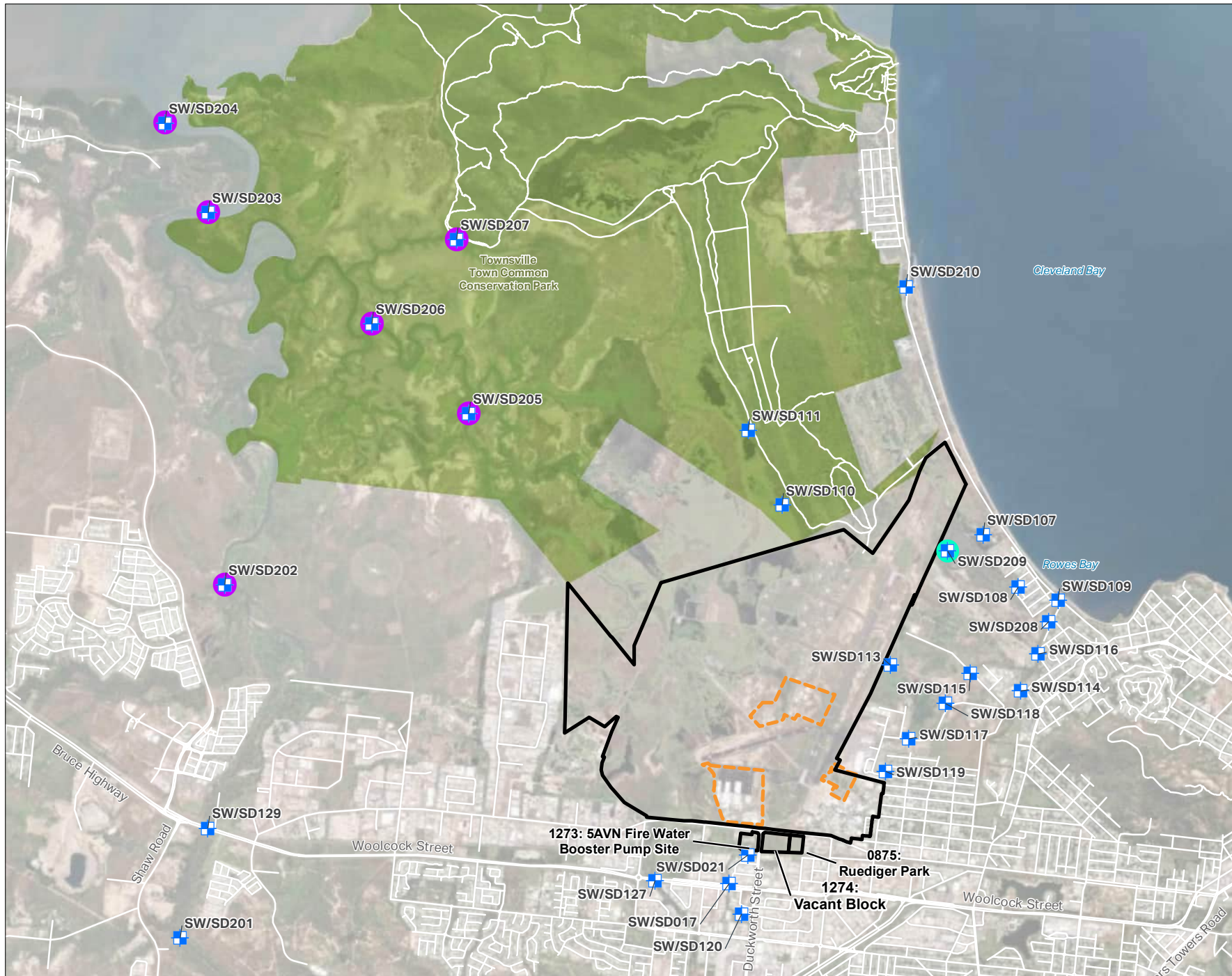
PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville (0874)
Samp ling Analysis Quality Plan
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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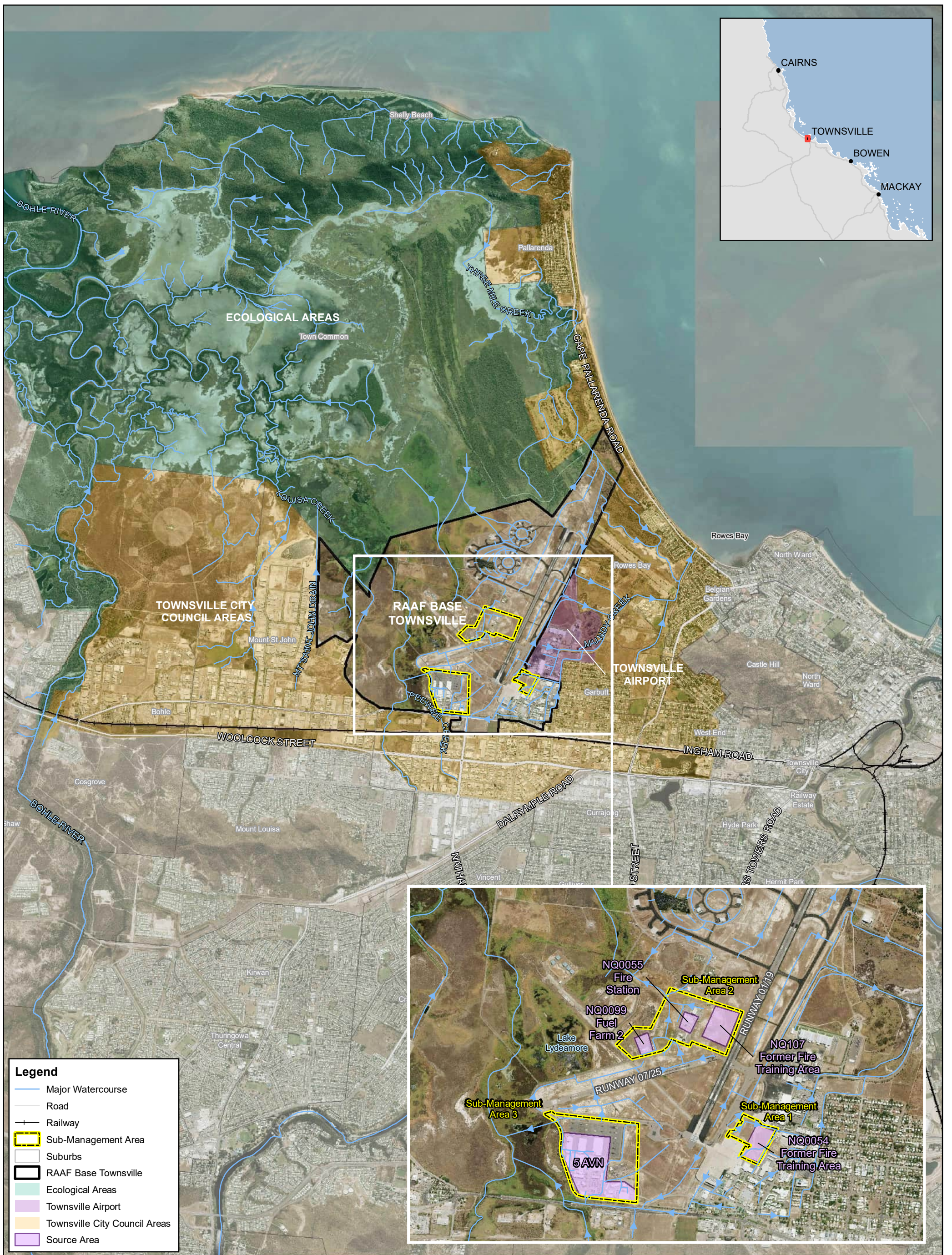
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Appendix B

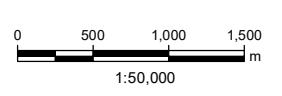
RAAF Base Townsville Management Area



Legend	
	Major Watercourse
	Road
	Railway
	Sub-Management Area
	Suburbs
	RAAF Base Townsville
	Ecological Areas
	Townsville Airport
	Townsville City Council Areas
	Source Area

Map: PS102571_F001a_ManagementArea_r1v5
 Author: NK

Date: 15/11/2019
 Approved by: DH



Coordinate system: GCS WGS 1984
 Scale ratio correct when printed at A3

Data source: Esri Digital Globe, Pitney Bowes Software Australia Pty Ltd, © The State of Queensland (Department of Natural Resources and Mines) (2016)



**RAAF TVL PFAS Management Area Plan -
 Townsville, Queensland, 4810**

Figure 1a

Management Area Plan (December 2019)

Appendix C

Well Construction Details

MW ID	Screen Interval Depth (mbgl)	Well Installation Depth (mbtoc)
MW002	Not available	4.67
MW004	Not available	5.26
MW005	Not available	7.51
MW009	Not available	4.79
MW013	Not available	4.86
MW015	Not available	3.41
MW016	Not available	3.55
MW021	Not available	3.25
MW026	Not available	4.84
MW033	Not available	3.95
MW034	Not available	3.89
MW038	Not available	4.71
MW043	Not available	5.81
MW046	Not available	4.43
MW054	Not available	5.63
MW055	Not available	4.91
MW056	Not available	5.46
MW057	Not available	6.28
MW061	Not available	5.479
MW063	Not available	5.31
MW081	Not available	5.28
MW090	Not available	2.94
MW109	Not available	5.84
MW110	Not available	4.9
MW112	Not available	-
MW114	Not available	5.34
MW118	Not available	4.6
MW120	Not available	5.84
MW122	1.5 - 4.5	6.45
MW125	5 - 11	9.94
MW135	1.5 - 4.5	5.9
MW136	Not available	5.84
MW138	3 - 6	5.97
MW139	3 - 6	6
MW140	Not available	11.18
MW142	3 - 6	6.1
MW201	3.0 – 6.0	5.965
MW202	3.0 – 6.0	6.032
MW203	3.0 – 6.0	4.795
MW204	3.0 – 6.0	5.035
MW205	1.2 - 4.2	4.98
MW206	1 - 4	4.98
MW207	2 - 6	6.23
MW208	1 - 4	4.76
MW211	2 - 6	5.25
MW212	1 - 4	4.07
MW213	1 - 4.5	5.12
MW214	1 - 5	5.27
MW215	1 - 7	6.84
MW216	1 - 4.5	4.34
MW217	2 - 6	5.83
MW218	2 - 6	5.23
MW219	3 - 11	9.08
MW220	3.0 – 6.0	6.38
MW221	1 - 6	5.62
MW222	1.2 - 8	7.97
MW223	1.5 - 4.5	4.728

MW224	2.2 - 8.2	7.93
MW225	1 - 7	6.802
MW226	1.5 - 6.5	6.64
MW227	1 - 8	7.86
MW228	3.0 - 6.0	8.245
MW229	1 - 9.7	10.16
MW231	3.0 - 6.0	5.78
MW232	1 - 5	4.97
MW233	1.5 - 3.9	4.03
MW234	1 - 6	7.72
MW235	3.0 - 6.0	6.863
MW236	3.0 - 6.0	6.907
MW237	3.0 - 6.0	6.658
MW238	3.0 - 6.0	5.831
MW239	3.0 - 6.0	7.052
MW240	3.0 - 6.0	5.965
MW241	1 - 4	4.7
MW242	1 - 4	4.83
MW243	1 - 7	7.7
MW244	0.7 - 4.7	4.13
MW245	2.2 - 4.2	5.01
MW246	1 - 7	7.47
MW247	0.8 - 3.5	4.22
MW248	1 - 4	3.67
MW250	1 - 6	5.2
MW251	0.7 - 6.7	7.18
MW252	1.5 - 4	4.03
MW253	1.5 - 4	-
MW254	3.0 - 6.0	7.5
MW255	1.5 - 7.5	8.31
MW256	3.0 - 6.0	5
MW257	3.0 - 6.0	4
MW258	3.0 - 6.0	5
MW259	3.0 - 6.0	5
MW260	3.0 - 6.0	5.1
MW261	3.0 - 6.0	10.2
MW262	3.0 - 6.0	5.5
MW263	1.5 - 4	3.55
MW264	1 - 5.6	3.985
MW265	1.5 - 5	5.81
MW266	3.0 - 6.0	5
MW267	1.5 - 5	4.644
MW268	3.0 - 6.0	5
MW269	3.0 - 6.0	5
MW270	3.0 - 6.0	5.1
MW300	1.5 - 6.0	6
MW301	2.0 - 5.0	5
MW467	Not available	4.644
MW470	Not available	4.355
MW471	Not available	4.915

Appendix E

2020 to 2023 Factual
Reports

Rainfall Event Sampling Factual Report, December 2020

PFAS OMP - RAAF Base Townsville

AECOM

PFAS Ongoing Monitoring Program - RAAF Base Townsville
Rainfall Event Sampling Factual Report, December 2020 – PFAS OMP - RAAF Base
Townsville
Commercial-in-Confidence

Rainfall Event Sampling Factual Report, December 2020

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Level 5, 7 Tomlins Street, South Townsville Qld 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

07-May-2021

Job No.: 60612487

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document Rainfall Event Sampling Factual Report, December 2020

Ref 60612487_RP28_20210506_0

Date 07-May-2021

Prepared by [REDACTED]

Reviewed by [REDACTED]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	05-Feb-2021	Draft for Review	[REDACTED]	
B	15-Apr-2021	Draft for Review	[REDACTED]	
0	07-May-2021	Final Issue	[REDACTED]	[REDACTED]

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1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Program (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019a) at the Royal Australian Airforce (RAAF) Base Townsville (the 'Base') located in the North Queensland Region. The Management Area as defined in the PMAP is the Base boundary as shown in **Figure 1** in **Appendix A**. The Monitoring Area includes areas on-Base and off-Base.

The OMP for Townsville (Defence, 2019a) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of consecutive 5 days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP, AECOM, 2020a) provides details of the sampling events. Biannual sampling events in April 2020 and September 2020 were completed and reported in AECOM (2020b) and AECOM (2020c) respectively.

A rainfall sampling event was triggered in December 2020 following 50 mm rainfall recorded at the Townsville Aero on 26 December 2020. This sampling event factual report has been prepared to report the results of the December 2020 rainfall event, specifically highlighting first-time detections and/or first-time exceedances of human health screening criteria for perfluorohexane sulfonic acid (PFHxS)+perfluorooctane sulfonate (PFOS) and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *Defence (2020) PFAS OMP factual reports – guidance for preparation*, March 2020 (Defence, 2020).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP; and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the scope of works for the December 2020 rainfall event sampling in accordance with the SAQP (AECOM, 2020a).

2.0 Scope of Work

The sampling event at RAAF Base Townsville was completed in general accordance with the SAQP (AECOM, 2020a). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP) (HEPA, 2020);
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013);
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b);
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018); and
 - Relevant State regulatory guidelines.
- Collection of surface water samples at 19 locations including nine on-Base and ten off-Base locations, daily for five consecutive days (refer to **Figure 2**, **Appendix A** and **Table 1** below).
- Analysis of all surface water samples for the PFAS suite at the standard limit of reporting (LOR). Analysis of 20% of surface water samples for major cations (sodium, calcium, magnesium and potassium) and anions (chloride, sulphate, bicarbonate, carbonate), total suspended solids (TSS) and dissolved organic carbon (DOC).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite and 1 in 20 primary samples to be analysed for the additional analysis listed in the point above, one rinsate sample per fieldwork day, and one trip blank per sample esky.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Surface Water Catchments and Sampling Locations

Catchment	Location ID	
	On-Base	Off-Base
Bohle River / Louisa Creek / Townsville Town Common	SW016, SW112, SW123, SW125, SW131	SW014, SW017, SW127*, SW129*
Mundy Creek	SW010, SW121*, SW132	SW108, SW109, SW115, SW116*, SW117, SW118
Three Mile Creek	SW102	

*denotes samples analysed for non-PFAS suite. As no locations were specified for non-PFAS suite in the SAQP for this sampling event locations selected for the additional analysis suite were spread across the catchments.

3.0 Methodology

3.1 Surface Water Sampling Methodology

The methodology used for the December 2020 rainfall event sampling was in accordance with the SAQP (AECOM, 2020a) and is summarised in **Table 2** below.

Table 2 Surface Water Sampling Methodology

Item	Details
Field parameters	Temperature, electrical conductance (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all surface water samples and are presented in Table T1 in Appendix B . Equipment calibration certificates for the water quality meter are provided in Appendix F . ORP readings were obtained however the ORP probe was unable to be calibrated as the calibration solutions had expired. ORP readings should be interpreted with caution.
Sampling methodology	Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where bottles could not be lowered into the water column directly, a sampling pole with a decontaminated stainless-steel cup was used to retrieve the sample and transfer the water into the laboratory-supplied container.
Sample analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. Additionally, approximately 20% of selected primary samples were submitted for major ions, TSS and DOC. ALS Brisbane, Queensland was used as the primary laboratory. NMI of Sydney, NSW was used as the secondary laboratory. Chain of Custody Forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), trip blanks, and rinsate samples. Refer to Appendix C for assessment of QA/QC sample data.

3.2 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019 (NHMRC 2019).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM).

In accordance with the PMAP (Defence, 2019a) and SAQP (AECOM, 2020), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 3** below.

Table 3 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Recreational use – surface water	PFOS+PFHxS ¹	2 µg/L	The values are from NHMRC (2019).
	PFOA ²	10 µg/L	<i>All surface water results were compared to these criteria.</i>
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2020 (HEPA, 2020).
	PFOA	220 µg/L	<i>All surface water results were compared to these criteria.</i>

3.3 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2020a).

Data validation assessment is provided in **Appendix C**.

Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2019) Annex L requirements.

3.4 Deviation from the SAQP

Table 4 lists the deviations from the SAQP (AECOM, 2020) during this sampling round.

Table 4 Deviations from the SAQP during December 2020 Rainfall Event Sampling

SAQP	Rainfall Event Sampling December 2020	Impact of Deviation
Locations will be sampled daily for five consecutive days.	Location SW016 was unable to be sampled on one day (31/12/2020) due to safety concerns associated with flooded access roads. This location was not sampled on this date.	Concentrations of PFAS compounds at SW016 were highest on the first day of sampling. Concentrations decreased over the first three days. All samples collected at this location were above the 95% species protection guideline for freshwater and marine ecosystems. This is consistent with all but two on-Base surface water sampling locations. The collection of a surface water sample at this location on the fifth day would be unlikely to affect the interpretation of the data.
20% of primary samples will analysed for major ions, TSS and DOC.	<p>20% of primary samples were analysed for major ions, TSS, DOC, total dissolved solids (TDS) and pH, with the exception of those sampled on 31/12/2020 which were not selected for pH laboratory analysis due to an exceedance of holding time (by four days) between sampling and analysis as a result of public holidays.</p> <p>Additional analysis of samples for TDS and pH during this sampling event occurred due to the inadvertent selection of an analytical suite that included TDS and pH within the field application used to log the samples with the laboratory.</p>	Samples were analysed for additional parameters not required by the OMP. This does not impact the interpretation of the results.
Water quality meter will be calibrated daily before sampling.	<p>There is an underlying assumption in this requirement that all probes of the water quality meter will be calibrated.</p> <p>During this sampling event the ORP probe was unable to be calibrated as the calibration solutions had expired. As the timing of the event coincided with the holiday period new calibration solutions were unable to be purchased.</p>	ORP results should be interpreted with caution, however, PFAS concentrations will be unaffected by this deviation.

4.0 Field Observations and Results

The December 2020 rainfall event sampling was completed between 27 December and 31 December 2020. This sampling event was triggered by the report of 50 mm of rainfall recorded at Townsville Aero (station 032040) on 27 December 2020. **Plate 1** below shows the rainfall received at Townsville Aero the week preceding the sampling event and for the duration of the sampling.

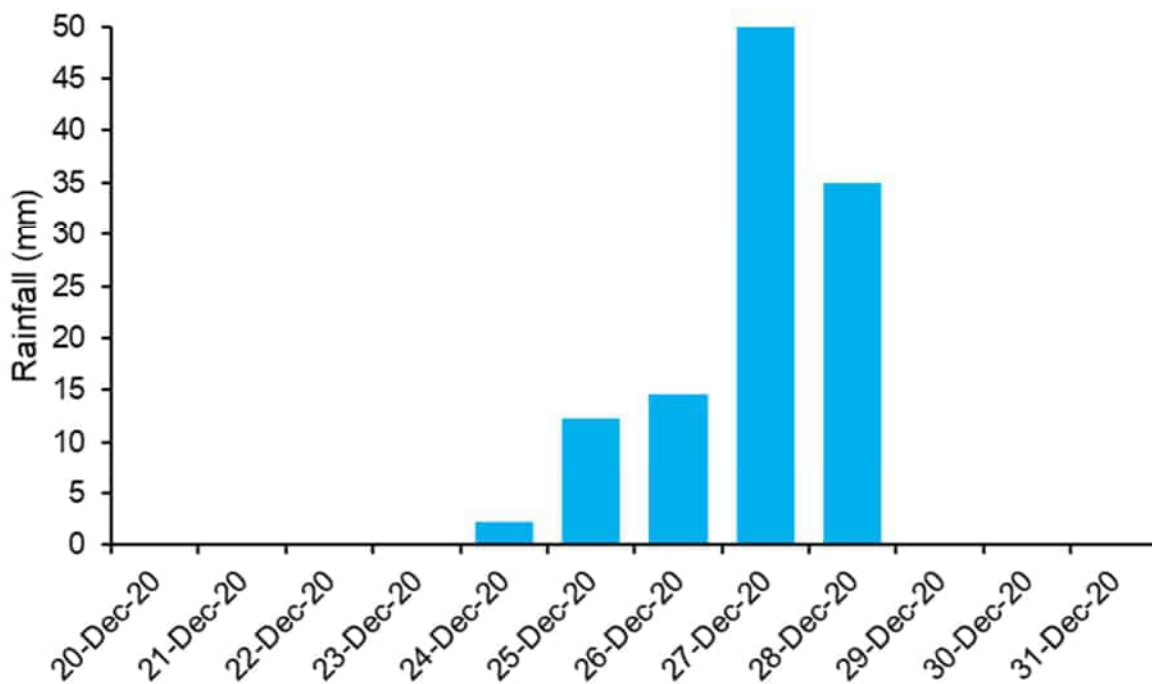


Plate 1 Daily recorded rainfall at Townsville Aero (station 032040) 20 December to 31 December 2020

The results of the sampling event are summarised in the following sections.

4.1 Surface Water Observations and Field Measurements

Table 5 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water sampling locations were accessible and sampled for this monitoring event, with the exception of SW016 which was unable to be sampled on one day (31/12/2020) due to safety concerns associated with flooded access roads.
Field Observations	<p>Hydrocarbon sheen as the result of fuel or oil was noted at SW017 across the five-day sampling event.</p> <p>A biosheen was noted at SW014, SW108, SW115, SW117, SW121, SW123 and SW131 throughout the sampling event. No other visual or olfactory indications of contamination were observed during the sampling of the other surface water sampling locations.</p> <p>Surface water from three locations (SW010, SW116, SW118) had an organic odour and one location (SW131) had a sulfurous organic odour.</p> <p>Field observations including stream characteristics are presented in Table T1 in Appendix B.</p>

Item	Observations
Geochemical Parameters	<p>Surface water geochemical parameters were measured prior to collecting surface water samples. The readings are presented in Table T1 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • DO ranged from 1.84 mg/L (0874_SW010_201227) to 12.9 mg/L (0874_SW131_201227) indicating a range between moderately and well oxygenated conditions. • EC ranged from 34.3 µS/cm (0874_SW123_201230) to 22,376 µS/cm (0874_SW108_201227) indicating fresh to brackish conditions. • pH ranged from 3.61 (0874_SW125_201227) to 9.39 (0874_SW108_201231). pH results generally indicated acidic to alkaline conditions. • ORP ranged from -50.4 mV (0874_SW131_201231) to 357.8 mV (0874_SW125_201227) indicating mildly to strongly oxidising conditions. • Temperature ranged from 25.6°C (0874_SW127_201231) to 36.3°C (0874_SW125_201229).
Weather Conditions	<p>Weather was generally overcast and humid during sampling. Light rain was experienced on 28/12/2020 during sampling of SW121 and SW127, and on 30/12/2020 during sampling of SW016 and SW131.</p>
Estate Management Works or Training Activities	<p>No remediation, construction or training activities were underway during the sampling event.</p>

4.1.1 PFAS Surface Water Analytical Results

Of the 94 surface water samples analysed, 81 samples reported PFAS concentrations above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T2** in **Appendix B**. Sixty-six samples exceeded the adopted ecological guideline for PFOS and 27 samples exceeded the recreational use guideline for PFHxS + PFOS for surface water (**Table T2**, **Appendix B**).

There were no first-time detections of PFOS+PFHxS or PFOA, or first-time exceedances of guideline values in surface water samples.

4.1.2 Non-PFAS Surface Water Analytical Results

The non-PFAS surface water analytical results from this sampling event are presented in **Table T3** in **Appendix B**.

5.0 Summary and Next Sampling Event

5.1 Summary of Rainfall Event

A surface water sampling event was triggered by the occurrence of a rainfall event on 26 December 2020 with 50 mm rainfall. The sampling event was conducted on and off-Base for RAAF Base Townsville between 27 and 31 December 2020. The event included sampling of 19 surface water locations daily for five consecutive days. **Table 6** summarises the findings of the December 2020 sampling event and the recommended actions.

Table 6 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Sediment/ Surface Water:</u> Access to sampling locations	All 19 locations were accessed daily from 27 December to 30 December. Access to location SW016 was prohibited due safety concerns associated with flooded roads on Base on 31 December. This location was not sampled on this date.	Ongoing monitoring in accordance with the OMP.
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 81 of the 94 surface water samples analysed.	Ongoing monitoring in accordance with the OMP.
First-time detections and exceedances of Sum of PFOS+PFHxS, PFOS or PFOA	There were no first-time detections of PFOS+PFHxS or PFOA, or first-time exceedances of guideline values in surface water samples	No actions recommended.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April 2021.

The 2021 Rainfall Sampling Event will be performed once the appropriate rainfall trigger levels are met (refer to Section 1.1).

5.3 Upcoming Annual Interpretive Report

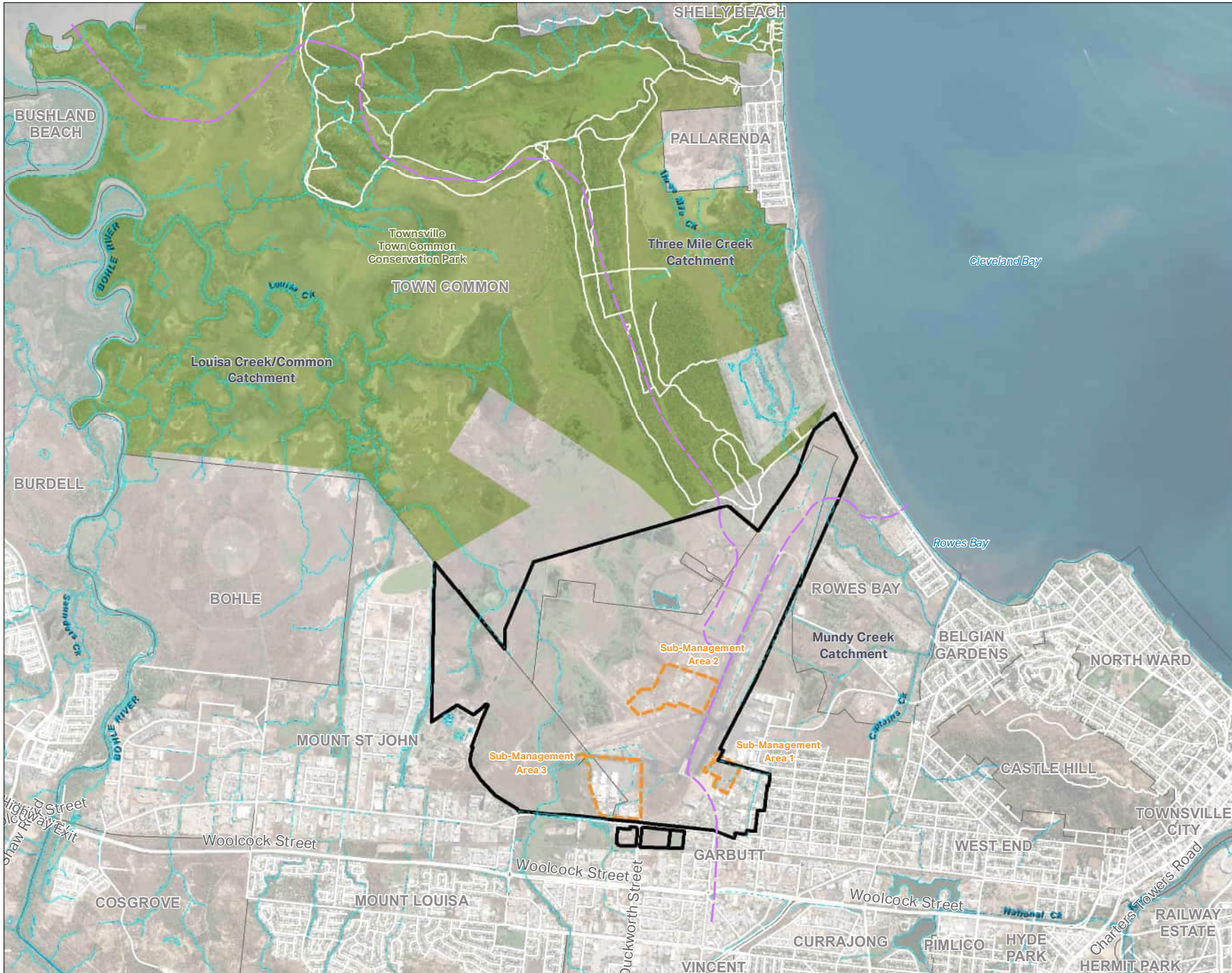
The next annual interpretative report is scheduled for December 2021.

6.0 References

- AECOM. (2020a). *PFAS OMP RAAF Base Townsville Sampling and Analysis Quality Plan, Draft Rev 0, 26 March 2020.*
- AECOM. (2020b). *PFAS OMP RAAF Base Townsville Sampling Event Factual Report, April 2021.*
- AECOM. (2020c). *PFAS OMP RAAF Base Townsville Sampling Event Factual Report, September 2020.*
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- Department of Defence (2018). *Defence Contamination Management Manual.* Amended August 2019.
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- Heads of Environmental Protection Agencies (HEPA) (2020). *PFAS National Environmental Management Plan (NEMP), version 2.0 – January 2020.*
- National Environment Protection Council [NEPC] (1999, as amended May 2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guideline on Site Characterisation.*
- National Health and Medical Research Council (NHMRC) (2019). *Guidance on PFAS in Recreational Water.*

Appendix A

Figures



AECOM



Legend









-  Management Area
-  Sub-Management Area
-  Major Watercourse
-  Minor Watercourse
-  Major Culvert
-  Minor Culvert
-  Canal line
-  Catchment boundaries

FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
Rainfall Event Sampling,
December 2020

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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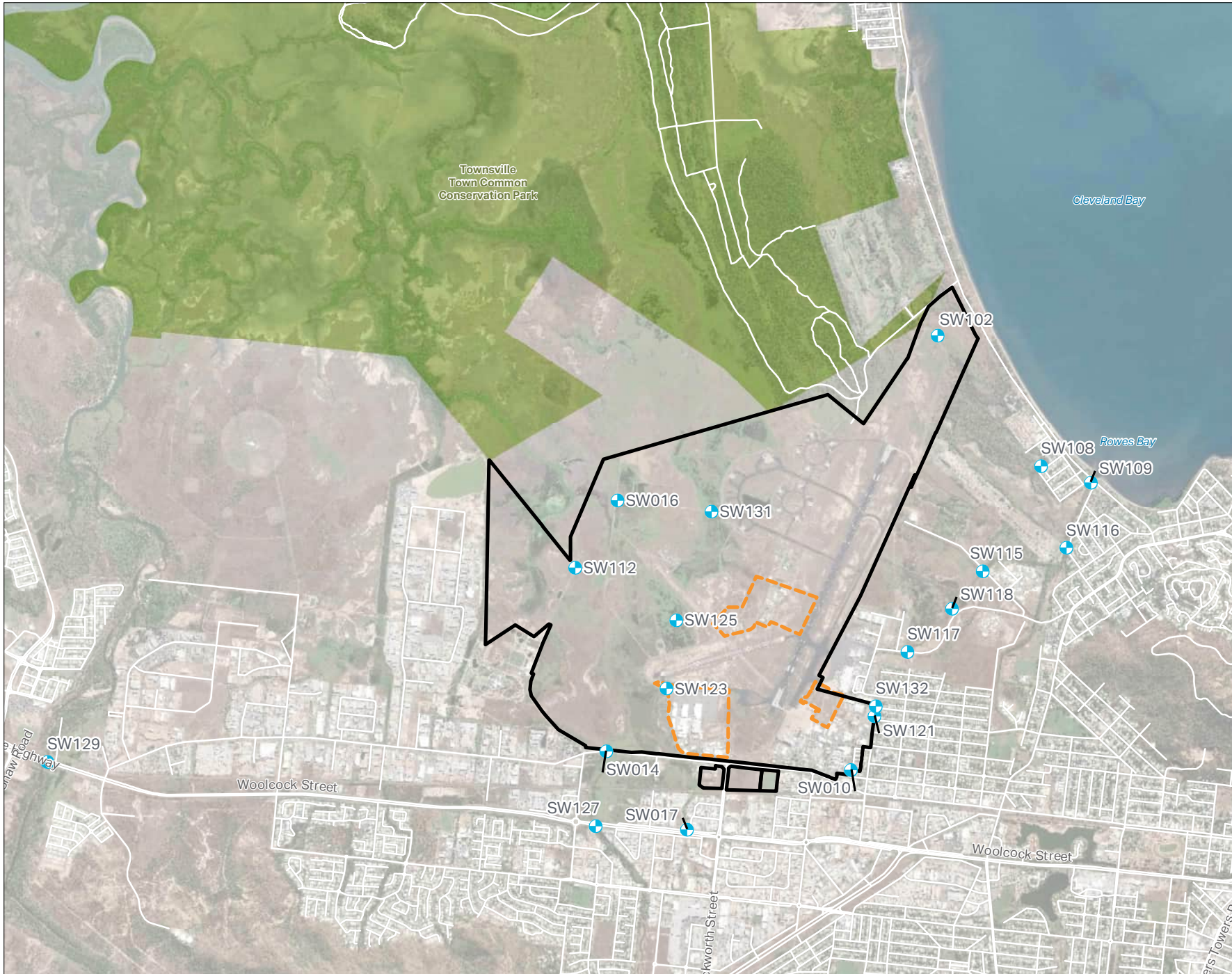
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Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management
- Sub-Management Area
- Surface Water Sample Location



**FIGURE 2:
SURFACE WATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Rainfall Event Sampling,
December 2020
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Appendix B

Analytical Tables

Location Code	Sample ID	Sample Date	DO mg/L	DO %	EC µS/cm	pH -	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Comment
SW010	0874_SW010_201227	27/12/2020	1.84	22.6	360.3	6.66	173.7	27.3	0.63	Pale yellow	No odour	No sheen	Cane toad eggs in drain
	0874_SW010_201228	28/12/2020	2.98	36.4	247.6	6.7	88.1	28.1	0.9	Brown	No odour	No sheen	
	0874_SW010_201229	29/12/2020	2.48	30.2	166.1	6.21	107.6	28.1	3.82	Pale Yellow	Organic Odour	No sheen	
	0874_SW010_201230	30/12/2020	6.58	84.5	104.9	6.64	120.2	28.9	18.19	Yellowish Brown	No odour	No sheen	
	0874_SW010_201231	31/12/2020	4.15	52.3	275.9	6.65	113.1	27.8	1.37	Yellowish Brown	No odour	No sheen	
SW014	0874_SW014_201227	27/12/2020	3.21	-	1149	7.23	131.3	27.6	9.86	Pale yellow	No odour	No sheen	Bio scum and algae present
	0874_SW014_201228	28/12/2020	3.9	47.5	369.5	7.15	96.6	28.1	20.12	Brown	No odour	Slight sheen	
	0874_SW014_201229	29/12/2020	3.4	42.7	166.6	7.07	87.3	27.2	22	Yellow	No odour	No sheen	
	0874_SW014_201230	30/12/2020	3.3	40.6	162.8	6.82	103.4	27.4	9.35	Yellowish Brown	No odour	No sheen	
	0874_SW014_201231	31/12/2020	3.39	41.4	206.6	6.79	95.1	27.4	7.98	Yellowish Brown	No odour	No sheen	
SW016	0874_SW016_201227	27/12/2020	5.23	68.0	800	6.95	96	30.9	120.82	Brown	No odour	No sheen	
	0874_SW016_201228	28/12/2020	6.62	85.4	356.3	6.81	132	30.2	179.2	Brown	No odour	No sheen	
	0874_SW016_201229	29/12/2020	4.89	66.0	733	6.15	60.9	32.9	86.88	Brown	No odour	No sheen	
	0874_SW016_201230	30/12/2020	2.21	28.0	956	6.1	66.4	28.9	8.37	Reddish Yellow	No odour	No sheen	
SW017	0874_SW017_201227	27/12/2020	5.33	67.4	464.9	7.15	187	27.7	13.5	Pale yellow	No odour	Slight sheen	Rubbish present in drain
	0874_SW017_201228	28/12/2020	6.83	87.0	65.6	7.34	152.6	28.2	11.84	Brown	No odour	Slight sheen	
	0874_SW017_201229	29/12/2020	6.2	77.9	165	6.98	152	27.3	12.17	Light Olive Brown	No odour	Sheen	
	0874_SW017_201230	30/12/2020	6.25	77.2	159	6.63	168.7	27.2	5.2	Yellowish Brown	No odour	Sheen	
	0874_SW017_201231	31/12/2020	6.62	81.6	126.5	6.93	150.6	26.4	4.7	Light Olive Brown	No odour	Sheen	
SW102	0874_SW102_201227	27/12/2020	4.96	64.9	304.9	6.41	134	29.4	29.03	Brown	No odour	No sheen	Dead toad in drain
	0874_SW102_201228	28/12/2020	4.84	62.4	379.1	6.98	92.2	29.6	12.48	Brown	No odour	No sheen	
	0874_SW102_201229	29/12/2020	4.76	63.4	229.3	6.23	78.2	31.4	25	Brown	No odour	No sheen	
	0874_SW102_201230	30/12/2020	4.47	58.3	310.8	6.49	93.3	29.9	17.98	Yellowish Brown	No odour	No sheen	
	0874_SW102_201231	31/12/2020	4.71	58.6	153.2	6.38	90.7	27	19.55	Yellowish Brown	No odour	No sheen	
SW108	0874_SW108_201227	27/12/2020	10.3	145.0	22376	8.2	159.2	30.9	14.56	Brown	No odour	No sheen	
	0874_SW108_201228	28/12/2020	8.67	131.2	17060	7.57	146.4	34.2	12.3	Yellowish Brown	No odour	No sheen	
	0874_SW108_201229	29/12/2020	5.61	72.9	8763	6.42	193.3	28.4	12.58	Brown	No odour	Biosheen Appearance	Council quad bike drove through creek spraying pellets for mosquito control
	0874_SW108_201230	30/12/2020	4.95	68.3	1841	6.48	125.9	33.9	14.64	Yellow	No odour	No sheen	Pellets for mosquito control sprayed 29-12-20
	0874_SW108_201231	31/12/2020	2.69	33.5	938	9.39	133.2	30	6.49	Dark Reddish Brown	No odour	No sheen	Pellets for mosquito control sprayed 29-12-20
SW109	0874_SW109_201227	27/12/2020	6.05	78.8	14365	6.5	222.7	28.1	33.28	Pale Yellow	No odour	No sheen	
	0874_SW109_201228	28/12/2020	5.86	78.5	2668	6.81	98.9	30.6	35.08	Brown	No odour	No sheen	
	0874_SW109_201229	29/12/2020	5.74	70.7	3400	6.19	192.6	26	56	Brown	No odour	No sheen	
	0874_SW109_201230	30/12/2020	6.04	80.7	3008	6.64	130.5	30.6	202.75	Light Olive Brown	No odour	No sheen	
	0874_SW109_201231	31/12/2020	5.63	72.8	1938	6.49	151.6	29.1	35.83	Light Olive Brown	No odour	No sheen	
SW112	0874_SW112_201227	27/12/2020	7.2	-	1535	7.52	139.4	29.9	1.38	Yellow	No odour	No sheen	
	0874_SW112_201228	28/12/2020	7.22	97.4	1678	7.7	101.3	30.9	0.44	Brown	No odour	No sheen	
	0874_SW112_201229	29/12/2020	7.32	96.4	1362	7.17	84.6	29.6	-2.03	Pale Yellow	No odour	No sheen	
	0874_SW112_201230	30/12/2020	7.26	96.5	1178	6.83	116.4	30.2	0.36	Yellowish Brown	No odour	No sheen	
	0874_SW112_201231	31/12/2020	7.42	95.2	1119	6.85	118.3	28.1	4.25	Pale Yellow	No odour	No sheen	
SW115	0874_SW115_201227	27/12/2020	4.36	56.2	2243	6.76	146.6	29.4	47.03	-	No odour	No sheen	
	0874_SW115_201228	28/12/2020	5.53	76.4	1277	6.74	122	33	31.22	Brown	No odour	No sheen	
	0874_SW115_201229	29/12/2020	5.27	64.0	546	6.13	193.3	26.2	36.4	Brown	No odour	Biosheen Appearance	
	0874_SW115_201230	30/12/2020	6.01	81.0	1068	6.39	102.2	31.3	30.62	Brown	No odour	No sheen	
	0874_SW115_201231	31/12/2020	5.65	71.9	650	6.41	76.6	28.3	16.29	Brown	No odour	No sheen	
SW116	0874_SW116_201227	27/12/2020	4.93	63.2	2374	6.64	166.6	28.5	30.99	Brown	Slight Organic Odour	No sheen	
	0874_SW116_201228	28/12/2020	5.68	79.3	1322	6.58	103.6	32.8	28.56	Brown	No odour	No sheen	
	0874_SW116_201229	29/12/2020	5.81	71.3	597	6.24	117.9	25.9	55	Brown	No odour	No sheen	
	0874_SW116_201230	30/12/2020	5.92	78.6	885	6.51	121.3	30.5	23.8	Light Olive Brown	No odour	No sheen	
	0874_SW116_201231	31/12/2020	6.11	78.7	535	6.49	131.1	28.5	20.81	Light Olive Brown	No odour	No sheen	
SW117	0874_SW117_201227	27/12/2020	4.23	54.5	1360	8.31	207.4	28.6	8.2	Yellow	No odour	No sheen	
	0874_SW117_201228	28/12/2020	9.4	134.1	755	9.41	139.5	33.5	5.03	Brown	No odour	No sheen	
	0874_SW117_201229	29/12/2020	8.27	104.2	642	6.78	180.4	27.1	12.27	Dark Olive Brown	No odour	Biosheen Appearance	
	0874_SW117_201230	30/12/2020	8.27	109.1	176.9	7.67	91.5	30	12.8	Brown	No odour	Sheen	
	0874_SW117_201231	31/12/2020	12.66	167.3	645	8.88	87.9	29.7	3.76	Yellowish Brown	No odour	No sheen	Dead rat in waterway
SW118	0874_SW118_201227	27/12/2020	6.2	82.2	2039	7.4	135.9	29.5	79.67	Brown	Organic Odour	No sheen	
	0874_SW118_201228	28/12/2020	6.22	85.5	1027	7.99	153.1	32.8	43.66	Brown	No odour	No sheen	
	0874_SW118_201229	29/12/2020	5.31	66.1	354.4	6.53	188.5	26.3	30.09	Brown	No odour	No sheen	
	0874_SW118_201230	30/12/2020	6.76	90.2	589	7.06	141.7	30.5	13.01	Light Olive Brown	No odour	No sheen	
	0874_SW118_201231	31/12/2020	5.87	75.3	437.3	6.81	108.2	28.6	14.54	Brown	No odour	No sheen	
SW121	0874_SW121_201227	27/12/2020	7.17	95.2	233.7	7.01	138.5	30.4	12.3	Yellowish Red	No odour	No sheen	
	0874_SW121_201228	28/12/2020	6.65	87.3	164.5	6.74	108.8	29.9	6.04	Yellowish Red	No odour	No sheen	
	0874_SW121_201229	29/12/2020	7.68	104.3	384.6	6.29	121	32.1	2.15	Yellowish Brown	No odour	Biosheen Appearance	
	0874_SW121_201230	30/12/2020	5.45	71.9	426.2	6.18	167.4	30.3	2.94	Yellow	No odour	Biosheen Appearance	
	0874_SW121_201231	31/12/2020	5.03	63.4	291.8	6.41	149.7	28.4	2.12	Yellowish Brown	No odour	No sheen	

Location Code	Sample ID	Sample Date	DO mg/L	DO %	EC µS/cm	pH -	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Comment
SW123	0874_SW123_201227	27/12/2020	5.65	73.5	194.3	6.89	134.6	29	18.64	-	No odour	Biosheen Appearance	
	0874_SW123_201228	28/12/2020	6.7	6.7	273.8	7.19	79.4	30.1	38.44	Brown	No odour	Slight sheen	
	0874_SW123_201229	29/12/2020	6.11	80.7	94.4	7	87.1	30.1	12.51	Brown	No odour	No sheen	
	0874_SW123_201230	30/12/2020	5.9	73.6	34.3	6.56	70.7	28.1	15.65	Yellowish Brown	No odour	No sheen	
	0874_SW123_201231	31/12/2020	6.7	86.0	81.2	6.99	94.5	28.8	5.88	Pale Yellow	No odour	No sheen	
SW125	0874_SW125_201227	27/12/2020	3.49	48.5	12792	3.61	357.8	31.8	40.23	Pale yellow	No odour	No sheen	
	0874_SW125_201228	28/12/2020	8.63	123.8	6437	6.99	125.1	33.9	204.83	Brown	No odour	No sheen	
	0874_SW125_201229	29/12/2020	8.22	121.5	2016	6.5	124.4	36.3	5.7	Yellowish Brown	No odour	No sheen	
	0874_SW125_201230	30/12/2020	5.69	75.5	821	6.23	106.9	30.2	16.4	Yellowish Brown	No odour	No sheen	
	0874_SW125_201231	31/12/2020	3.94	50.3	336.7	6.32	101.4	28.1	8.82	Yellowish Brown	No odour	No sheen	
SW127	0874_SW127_201227	27/12/2020	2.18	29.1	609	6.9	140.4	28.2	9.22	Pale yellow	No odour	No sheen	
	0874_SW127_201228	28/12/2020	3.42	42.2	127	6.82	135.2	27	14.96	Brown	No odour	No sheen	
	0874_SW127_201229	29/12/2020	3.01	37.2	94.3	6.46	99.8	27.4	47.5	Yellowish Brown	No odour	No sheen	
	0874_SW127_201230	30/12/2020	4	48.4	96.2	6.24	177.7	26.7	20	Brown	No odour	No sheen	
	0874_SW127_201231	31/12/2020	4.79	58.7	306.6	5.95	149.8	25.6	7.9	Yellowish Brown	No odour	No sheen	
SW129	0874_SW129_201227	27/12/2020	4.72	-	11208	7.36	199.4	27.9	22.06	Light Olive Brown	No odour	No sheen	
	0874_SW129_201228	28/12/2020	5.13	67.3	9225	7.56	191	28.1	10.13	Brown	No odour	No sheen	
	0874_SW129_201229	29/12/2020	5.74	72.1	641	6.17	114.2	27.2	62.45	Pale Yellow	No odour	No sheen	
	0874_SW129_201230	30/12/2020	6.27	78.9	438.7	6.51	152.5	27.1	49.77	Brown	No odour	No sheen	
	0874_SW129_201231	31/12/2020	5.87	72.9	469.8	6.12	147.2	26.9	44.92	Yellowish Brown	No odour	No sheen	
SW131	0874_SW131_201227	27/12/2020	12.9	168.4	4679	6.52	185.2	28.6	28.16	Brown	No odour	Biosheen Appearance	
	0874_SW131_201228	28/12/2020	9.92	132.7	3432	6.05	84.9	30.1	15.65	Pale Yellow	No odour	Slight sheen	
	0874_SW131_201229	29/12/2020	2.88	35.7	1151	5.45	22.2	28.5	4.73	Brown	No odour	No sheen	
	0874_SW131_201230	30/12/2020	2.08	24.9	711	6	-50.4	27.6	4.59	Reddish Yellow	Sulfurous Organic Odour	No sheen	
	0874_SW131_201231	31/12/2020	4.1	51.2	692	6.18	100.1	28	2.9	Pale Yellow	No odour	No sheen	
SW132	0874_SW132_201227	27/12/2020	11.3	155.7	1427	9.45	128.9	30.1	7.5	-	No odour	No sheen	
	0874_SW132_201228	28/12/2020	10.82	150.4	847	8.62	151.6	32.2	4.64	Brown	No odour	No sheen	
	0874_SW132_201229	29/12/2020	11.25	166.6	1106	8	136.2	34.7	9.79	Pale Yellow	No odour	No sheen	
	0874_SW132_201230	30/12/2020	7.41	96.8	168.5	7.13	84.8	29.3	18.14	Yellowish Brown	No odour	No sheen	
	0874_SW132_201231	31/12/2020	10.01	129.6	358.2	7.74	160.6	28.5	3.4	Pale Yellow	No odour	No sheen	

Table T2 - PFAS Analytical Results

				Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFOS and PFHxS	Sum of PFAS (WA DER List)					
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR				0.02	0.02	0.02	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01	0.01	0.01				
PFAS NEMP Freshwater and Marine 95% Species Protection								0.13						220																									
NHMRC - Recreational Use - Surface Water															10																					2			
On/Off-Base	Catchment	Location Code	Sampled Date																																				
On-Base	Bohle River/Louisa Creek/Town Common	SW014	27/12/2020	<0.02	<0.02	0.02	<0.02	0.03	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	0.05			
			28/12/2020	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.02	0.02	0.02	
			29/12/2020	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	
			30/12/2020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	
		31/12/2020	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	0.09	0.01	0.09
		SW016	27/12/2020	0.11	0.11	1.04	0.07	1.84	<0.02	<0.1	<0.06	0.24	<0.02	0.05	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	3.46	2.88	3.28	
			28/12/2020	0.08	0.05	0.32	<0.02	0.53	<0.02	<0.1	0.02	0.08	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.09	0.85	1.04	
			29/12/2020	0.04	0.02	0.17	<0.02	0.26	<0.02	<0.1	<0.02	0.04	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.53	0.43	0.51	
			30/12/2020	0.04	0.03	0.22	<0.02	0.44	<0.02	<0.1	<0.02	0.07	<0.02	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.82	0.66	0.79	
		SW112	27/12/2020	<0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	0.04	0.04	
			28/12/2020	<0.08	<0.02	0.04	<0.02	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.08	0.08	
			29/12/2020	0.05	<0.02	0.06	<0.02	0.06	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	0.12	0.21	
			30/12/2020	<0.02	<0.02	0.09	<0.02	<0.1	<0.02	<0.1	<0.02	0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.09	0.16	
		31/12/2020	<0.02	<0.02	0.08	<0.02	<0.1	<0.02	<0.1	<0.02	0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.15	0.08	0.15		
		SW123	27/12/2020	0.18	0.17	1.29	0.11	3.76	<0.02	<0.1	0.08	0.41	0.04	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6.11	5.05	5.83		
			28/12/2020	0.21	0.24	2.01	0.23	18.1	0.59	<0.2	0.11	0.51	0.06	0.12	<0.05	<0.05	<0.05	<0.13	<0.05	<0.05	0.2	<0.13	<0.13	<0.13	<0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	22.4	20.1	21.2			
			29/12/2020	0.06	0.06	0.57	0.07	3.06	<0.02	<0.1	0.04	0.13	<0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.02	3.63	3.89		
			30/12/2020	0.11	0.09	0.76	0.11	3.28	<0.02	<0.1	<0.07	0.2	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.59	4.04	4.39		
		31/12/2020	0.1	0.09	0.68	0.09	3.21	<0.03	<0.1	0.05	0.19	0.02	0.05	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	4.48	3.89	4.3			
		SW125	27/12/2020	1.06	0.59	2.36	0.08	1.04	<0.02	<0.7	0.52	2.25	0.08	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	8.04	3.4	7.37		
			28/12/2020	16.4	15.3	64.7	1.95	47.5	<0.25	<2.5	3.8	31.9	1.9	1.39	<0.25	<0.25	<0.25	<0.63	<0.25	<0.25	<0.25	<0.63	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	185	112	168	
			29/12/2020	16.4	16.4	115	6.07	132	<0.19	5.1	7.15	40.4	3.86	5.14	<0.19	<0.19	<0.19	<0.48	<0.19	<0.19	<0.19	<0.48	<0.19	<0.19	<0.19	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	348	247	325			
			30/12/2020	0.4	0.3	2.33	0.21	9.54	<0.02	<0.3	0.25	0.64	0.05	0.08	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	13.8	11.9	13.3		
		31/12/2020	1.25	1.25	9.5	0.68	19.4	<0.02	<0.6	0.76	3.23	0.27	0.49	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	37.4	28.9	35.5			
	SW131	27/12/2020	0.29	0.24	1.64	0.08	2.4	<0.02	<0.2	0.13	0.64	0.05	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	5.53	4.04	5.21				
		28/12/2020	0.31	0.25	1.78	0.08	2.76	<0.02	<0.1	0.15	0.55	0.05	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	5.99	4.54	5.66				
		29/12/2020	0.81	0.62	5.1	0.25	6.14	<0.02	0.4	0.42	1.59	0.17	0.29	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	15.8	11.2	14.9				
		30/12/2020																																					

	Inorganics													Dissolved Major Cations				
	pH (Lab)	TDS	TSS	Dissolved Organic Carbon	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Sulfate as SO4 - Turbidimetric (Filtered)	Chloride	Fluoride	Anions Total	Ionic Balance	Cations Total	Sodium (Filtered)	Calcium (Filtered)	Magnesium (Filtered)	Potassium (Filtered)
LOR	pH Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	%	meq/L	mg/L	mg/L	mg/L	mg/L
LOR	0.01	10	5	1	1	1	1000	1	1	1	0.1	0.01	0.01	0.01	1	1	1	1

On/Off-Base	Catchment	Location Code	Sampled Date	pH	TDS	TSS	DOC	Alk (HCO3)	Alk (CO3)	Alk (OH)	Alk (Total)	SO4	Cl	F	Anions Total	Ionic Balance	Cations Total	Na	Ca	Mg	K
On-Base	Mundy Creek	SW121	27/12/2020	7.14	130	<5	20	32	<1	<1000	32	5	15	<0.1	1.17	- *	1.39	12	11	3	3
			28/12/2020	7.15	118	<5	21	29	<1	<1000	29	6	16	<0.1	1.16	-	1.44	12	12	3	3
			29/12/2020	6.96	256	<5	23	44	<1	<1000	44	15	66	<0.1	3.05	3.66	3.28	32	26	6	4
			30/12/2020	6.96	238	<5	20	55	<1	<1000	55	19	71	0.1	3.5	4.01	3.79	39	30	6	4
			31/12/2020	-	175	<5	15	61	<1	<1000	61	14	30	0.1	2.36	-	2.82	25	26	4	4
Off-Base	Mundy Creek	SW116	27/12/2020	6.95	639	20	8	16	<1	<1000	16	66	329	0.1	11	3.78	10.2	170	17	21	8
			28/12/2020	7.04	627	16	9	15	<1	<1000	15	66	323	<0.1	10.8	3.74	10	168	17	20	8
			29/12/2020	6.71	364	31	8	16	<1	<1000	16	38	153	<0.1	5.43	2.99	5.11	80	12	11	5
			30/12/2020	7.05	453	14	8	27	<1	<1000	27	44	220	0.1	7.66	4.02	7.07	113	17	14	6
			31/12/2020	-	283	19	7	23	<1	<1000	23	32	121	<0.1	4.54	1.63	4.39	69	11	9	4
	Bohle River/Louisa Creek/Town Common	SW127	27/12/2020	7.04	78	13	8	16	<1	<1000	16	3	16	0.2	0.83	-	1.03	13	5	2	2
			28/12/2020	7.08	92	14	8	17	<1	<1000	17	3	16	<0.1	0.85	-	0.99	12	5	2	2
			29/12/2020	6.76	79	26	7	16	<1	<1000	16	3	10	<0.1	0.66	-	0.81	8	5	2	2
			30/12/2020	6.88	76	11	8	22	<1	<1000	22	2	10	<0.1	0.76	-	0.86	8	6	2	2
			31/12/2020	-	75	<5	6	26	<1	<1000	26	2	12	<0.1	0.9	-	1	10	7	2	2
		SW129	27/12/2020	7.72	4880	6	13	102	<1	<1000	102	351	2840	0.4	89.4	3.38	83.6	1460	85	176	54
			28/12/2020	7.7	4800	6	13	102	<1	<1000	102	352	2840	0.4	89.5	2.89	84.4	1470	86	180	55
			29/12/2020	7.17	344	62	9	38	<1	<1000	38	23	142	0.1	5.24	3.16	4.92	80	11	9	6
			30/12/2020	7.16	161	48	11	26	<1	<1000	26	8	38	<0.1	1.76	-	1.8	26	7	3	3
			31/12/2020	-	287	34	14	46	<1	<1000	46	22	98	0.1	4.14	1.44	4.26	65	13	8	5

* Ionic balance cannot be calculated where concentrations of individual anions or cations are below the laboratory LOR.

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	█	Date:	29/01/2021
Client:	Department of Defence				
Site:	Royal Australian Air Force (RAAF) Base Townsville				
Matrix type:	Surface water	Data verified by:	█	Date:	04/02/2021
No. of primary samples:	94 surface water				
Laboratory:	ALS (Brisbane), NMI (Sydney)	Project Manager:	█		
Lab reference:	EB2034364, EB2034405, EB2100007, RN1300060				

Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project. The data are considered appropriate for use to meet the project objectives.
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Field QA/QC

Sampling personnel	Sampling was conducted by AECOM personnel between 27 and 31 December 2020.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
Chain of Custody (COC)	COC documents completed as per AECOM procedures.
Rinsate Blank	Rinsate blank samples were collected at a frequency of at least one per day of sampling (five in total). Rinsate blanks (QC300 to QC304) were collected from the decontaminated surface water sampling cup. Concentrations were reported below the LOR for all analytes tested (see Table C2).
Trip Blanks	Trip blank samples (QC500 to QC504) were collected at a frequency of one per esky of samples submitted to ALS. Five eskies with five associated trip blanks were submitted to the Townsville laboratory. The samples were subsequently split by the laboratory into multiple eskies by the laboratory for transport to Brisbane. All trip blanks reported concentrations below the LOR, see Table C3 .
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in ten primary samples for PFAS (10 duplicates and triplicates) and one in twenty primary samples for additional analytes (five duplicates and triplicates).
Handling and preservation	Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 0.3 and 5.9°C.
Equipment Calibration	All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted. Calibration of the water quality meter was conducted daily before sampling. Calibration records are presented in Appendix F .

Laboratory QA/QC

Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times, except: <ul style="list-style-type: none"> Total Dissolved Solids in 0874_SW116_201227, 0874_SW127_201227, 0874_SW121_201227, 0874_SW129_201227 and 0874_QC103_201227 (1 day overdue);

	<ul style="list-style-type: none"> Total Suspended Solids in 0874_SW116_201227, 0874_SW127_201227, 0874_SW121_201227, 0874_SW129_201227 and 0874_QC103_201227 (1 day overdue); Dissolved Major Cations in 0874_SW116_201227, 0874_SW127_201227, 0874_SW121_201227, 0874_SW129_201227, 0874_QC103_201227, 0874_SW116_201228, 0874_SW127_201228, 0874_SW121_201228, 0874_SW129_201228, 0874_QC104_201228, 0874_SW116_201229, 0874_SW127_201229, 0874_SW121_201229, 0874_SW129_201229, 0874_QC105_201229 (1-3 days overdue); pH in 0874_SW116_201227, 0874_SW127_201227, 0874_SW121_201227, 0874_SW129_201227, 0874_QC103_201227, 0874_SW116_201228, 0874_SW127_201228, 0874_SW121_201228, 0874_SW129_201228, 0874_QC104_201228, 0874_SW116_201229, 0874_SW127_201229, 0874_SW121_201229, 0874_SW129_201229, 0874_QC105_201229, 0874_SW116_201230, 0874_SW127_201230, 0874_SW121_201230, 0874_SW129_201230 and 0874_QC107_201230 (1-2 days overdue). <p>The holding time non-compliances are not expected to impact data quality. All PFAS analyses (the key contaminant) were analysed within the minimum holding times.</p>
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> Laboratory Duplicates for PFAS (5.66 - 8.33%) were below the expected rate of 10% in EB2034364, EB2034405, EB2100007. Each batch had samples analysed for PFAS. Matrix spikes for PFAS (1.89 - 3.33%) were below the expected rate of 5% in EB2034364, EB2034405, EB2100007. Each batch had samples analysed for PFAS. <p>This is not expected to impact data quality.</p>
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples.
Laboratory control spike recovery	No non-compliances were reported for Laboratory Control Spikes (LCS).
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> PFOS spike recovery was not determined in 0874_SW010_201227, 0874_SW131_201228, 0874_SW121_201230 and 0874_SW118_201231 due to the background level being higher than the spike level; and PFHxS was not determined in 0874_SW131_201228, 0874_SW121_201230 due to the background level being higher than the spike level. <p>This is not expected to impact data quality or the validity of the investigation results.</p>
Surrogate spike recovery	Surrogate spike recoveries were within control limits.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.

Limits of reporting	<p>Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels.</p> <p>LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <ul style="list-style-type: none"> • EP231X (PFBA) in 0874_SW125_201228 (EB2034364); • EP231X in 0874_SW125_201228, 0874_SW123_201228 (EB2034364); • EP231X in 0874_SW125_201229 (EB2034405); • EP231X (PFDS) in 0874_SW123_201231 (EB2100007); and • EP231X (PFOS) in 0874_SW112_201231 (EB2100007).
Field duplicate RPDs	<p>RPDs for duplicates are reported in Table C1. Field duplicate RPDs were reported within control limits except the following (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> • 0874_SW125_201230 and 0874_QC108_201230 for PFBS (40%), PFHxA (40%) and PFHxS (33%). <p>The elevated RPDs for duplicate samples is potentially due to heterogeneity within the sample due to high turbidity and suspended particles as noted in Table T1 in Appendix B. These differences are not expected to impact data quality.</p>
Field triplicate RPDs	<p>Field triplicate RPDs were reported within control limits with the exception of the following (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> • 0874_SW116_201227 and 0874_QC203_201227 for Total Suspended Solids (87%); • 0874_SW116_201228 and 0874_QC204_201228 for Total Suspended Solids (88%); • 0874_SW127_201229 and 0874_QC205_201229 for Total Suspended Solids (75%); • 0874_SW129_201230 and 0874_QC207_201228 for Total Suspended Solids (66%); • 0874_SW125_201230 and 0874_QC208_201230 for PFBS (40%), PFHxA (53%), PFOA (67%) and PFHxS (50%); • 0874_SW121_201231 and 0874_QC209_201231 for Sulfate (76%) <p>The non-compliant RPDs for triplicate surface water samples are likely to be due to different extraction methods used by the laboratories. The minor non-compliances are not considered to affect the interpretation of the data.</p>

Lab Report Num	EB2034364	EB2034364		EB2034364	RN1300060		EB2034364	EB2034364		EB2034364	RN1300060	
Field ID	0874_SW129_201227	0874_QC100_201227		0874_SW129_201227	0874_QC200_201227		0874_SW123_201227	0874_QC101_201227		0874_SW123_201227	0874_QC201_201227	
Date	27/12/2020	27/12/2020		27/12/2020	27/12/2020		27/12/2020	27/12/2020		27/12/2020	27/12/2020	
Sample Type	Primary	Duplicate	RPD	Primary	Triplicate	RPD	Primary	Duplicate	RPD	Primary	Triplicate	RPD

Chemical Name	Unit	EQL												
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.05	<0.01	0	<0.05	<0.05	0	<0.05	0.012	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	0.18	0.16	12	0.18	0.14	25
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	0.063	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	0.11	0.11	0	0.11	0.063	54
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	0.04	0.04	0	0.04	0.032	22
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	0.41	0.39	5	0.41	0.32	25
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	-	<0.05	-	-	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	0.012	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	0.17	0.18	6	0.17	0.12	34
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	0.08	0.08	0	0.08	0.12	40
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	0	<0.05	<0.02	0	<0.05	<0.05	0	<0.05	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.02	0	<0.02	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.02	0.01	67	0.02	<0.02	0	3.76	3.60	4	3.76	2.9	26
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	0.07	0.07	0	0.07	0.086	21
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	<0.02	0	<0.02	<0.01	0	1.29	1.26	2	1.29	1.2	7
Carbon	mg/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	-	<0.02	-	-	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	13	-	-	13	-	-	-	-	-	-	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	-	<0.01	-	-	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	102	-	-	102	-	-	-	-	-	-	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	<1	-	-	<1	-	-	-	-	-	-	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	<1,000	-	-	<1,000	-	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	1	102	-	-	102	-	-	-	-	-	-	-	-
Anions Total	meq/L	0.01	89.4	-	-	89.4	-	-	-	-	-	-	-	-
Cations Total	meq/L	0.01	83.6	-	-	83.6	-	-	-	-	-	-	-	-
Chloride	mg/L	0.1	2,840	-	-	2,840	-	-	-	-	-	-	-	-
Fluoride	mg/L	0.1	0.4	-	-	0.4	-	-	-	-	-	-	-	-
Ionic Balance	%	0.01	3.38	-	-	3.38	-	-	-	-	-	-	-	-
pH (Lab)	pH Units	0.01	7.72	-	-	7.72	-	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	1,460	-	-	1,460	-	-	-	-	-	-	-	-
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	351	-	-	351	-	-	-	-	-	-	-	-
TDS	mg/L	10	4,880	-	-	4,880	-	-	-	-	-	-	-	-
TSS	mg/L	2	6	-	-	6	-	-	-	-	-	-	-	-
Calcium (filtered)	mg/L	0.005	85	-	-	85	-	-	-	-	-	-	-	-
Magnesium (filtered)	mg/L	0.005	176	-	-	176	-	-	-	-	-	-	-	-
Potassium (filtered)	mg/L	0.05	54	-	-	54	-	-	-	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than the EQL.

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Num	EB2034364	EB2034364		RN1300060		EB2034364	EB2034364		RN1300060	
Field ID	0874_SW116_201227	0874_QC103_201227		0874_QC203_201227		0874_SW112_201228	0874_QC102_201228		0874_QC202_201228	
Date	27/12/2020	27/12/2020		27/12/2020		28/12/2020	28/12/2020		28/12/2020	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	-	-	-	-	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	-	-	-	-	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	-	-	-	-	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	-	-	-	-	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	-	-	-	-	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	-	-	-	-	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	-	-	-	-	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	-	-	-	-	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.08	-	-	-	-	<0.08	<0.08	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	-	-	-	-	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.13	-	-	-	-	<0.02	<0.02	0	0.015	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	-	-	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	-	-	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.06	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.04	-	-	-	-	<0.02	<0.02	0	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	-	-	-	-	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	-	-	-	-	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	-	-	-	-	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.66	-	-	-	-	0.04	0.03	29	0.024	50
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.02	-	-	-	-	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.40	-	-	-	-	0.04	0.03	29	0.032	22
Carbon	mg/L	0.1	-	-	-	9	-	-	-	-	-	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	-	-	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	8	8	0	-	-	-	-	-	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	-	-	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	16	16	0	17	6	-	-	-	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	<1	<1	0	<5	0	-	-	-	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	<1,000	<1,000	0	<5	0	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	1	16	16	0	-	-	-	-	-	-	-
Anions Total	meq/L	0.01	11	10.9	1	-	-	-	-	-	-	-
Cations Total	meq/L	0.01	10.2	10.1	1	-	-	-	-	-	-	-
Chloride	mg/L	0.1	329	325	1	290	13	-	-	-	-	-
Fluoride	mg/L	0.1	0.1	<0.1	0	-	-	-	-	-	-	-
Ionic Balance	%	0.01	3.78	3.54	7	-	-	-	-	-	-	-
pH (Lab)	pH_Units	0.01	6.95	6.89	1	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	170	168	1.2	160	6	-	-	-	-	-
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	66	67	1.5	68	2.9	-	-	-	-	-
TDS	mg/L	10	639	635	1	-	-	-	-	-	-	-
TSS	mg/L	2	20	23	14	51	87	-	-	-	-	-
Calcium (filtered)	mg/L	0.005	17	18	6	15	12	-	-	-	-	-
Magnesium (filtered)	mg/L	0.005	21	21	0	20	5	-	-	-	-	-
Potassium (filtered)	mg/L	0.05	8	8	0	9.7	19	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Num	EB2034364	EB2034364		RN1300060		EB2034405	EB2034405		RN1300060	
Field ID	0874_SW116_201228	0874_QC104_201228		0874_QC204_201228		0874_SW127_201229	0874_QC105_201229		0874_QC205_201229	
Date	28/12/2020	28/12/2020		28/12/2020		29/12/2020	29/12/2020		29/12/2020	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.07	0.06	15	0.04	55	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.09	0.08	12	0.063	35	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	<0.05	-	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.05	0.05	0	0.029	53	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.62	0.69	11	0.47	28	<0.01	<0.01	0	<0.02	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.02	0.02	0	0.013	42	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.30	0.30	0	0.24	22	<0.02	<0.02	0	<0.01	0
Carbon	mg/L	0.1	-	-	-	9.4	-	-	-	-	7.4	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	9	9	0	-	-	7	8	13	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	15	15	0	16	6.45	16	18	12	18	12
Alkalinity (Carbonate as CaCO3)	mg/L	1	<1	<1	0	<5	0	<1	<1	0	<5	0
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	<1,000	<1,000	0	<5	0	<1,000	<1,000	0	<5	0
Alkalinity (total) as CaCO3	mg/L	1	15	15	0	-	-	16	18	12	-	-
Anions Total	meq/L	0.01	10.8	10.9	1	-	-	0.66	0.7	6	-	-
Cations Total	meq/L	0.01	10	10.3	3	-	-	0.81	0.81	0	-	-
Chloride	mg/L	0.1	323	326	1	280	14	10	10	0	8	22
Fluoride	mg/L	0.1	<0.1	<0.1	0	-	-	<0.1	0.2	67	-	-
Ionic Balance	%	0.01	3.74	2.94	24	-	-	-	-	-	-	-
pH (Lab)	pH_Units	0.01	7.04	7	1	-	-	6.76	6.76	0	-	-
Sodium (filtered)	mg/L	0.05	168	171	2	160	5	8	8	0	6.8	16
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	66	67	1.5	66	0	3	3	0	3.4	12.5
TDS	mg/L	10	627	629	0	-	-	79	62	24	-	-
TSS	mg/L	2	16	15	6	51	104	26	17	42	57	75
Calcium (filtered)	mg/L	0.005	17	18	6	15	12	5	5	0	5	0
Magnesium (filtered)	mg/L	0.005	20	21	5	20	0	2	2	0	1.7	16
Potassium (filtered)	mg/L	0.05	8	8	0	9.5	17	2	2	0	2.2	10

*RPDs have only been considered where a concentration is greater than the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Num	EB2034405	EB2034405		RN1300060		EB2034405	EB2034405		RN1300060	
Field ID	0874_SW102_201229	0874_QC106_201229		0874_QC206_201229		0874_SW129_201230	0874_QC107_201230		0874_QC207_201230	
Date	29/12/2020	29/12/2020		28/12/2020		30/12/2020	30/12/2020		30/12/2020	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.03	0.03	0	0.016	61	<0.02	<0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.04	0.04	0	0.021	62	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	<0.05	-	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.02	0.02	0	0.014	35	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.47	0.46	2	0.42	11	<0.01	<0.01	0	<0.02	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.20	0.20	0	0.16	22	<0.02	<0.02	0	<0.01	0
Carbon	mg/L	0.1	-	-	-	-	-	-	-	-	11	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-	11	12	9	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-	26	28	7	27	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-	<1	<1	0	<5	0
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-	<1,000	<1,000	0	<5	0
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	26	28	7	-	-
Anions Total	meq/L	0.01	-	-	-	-	-	1.76	1.83	4	-	-
Cations Total	meq/L	0.01	-	-	-	-	-	1.8	1.85	3	-	-
Chloride	mg/L	0.1	-	-	-	-	-	38	39	3	34	11
Fluoride	mg/L	0.1	-	-	-	-	-	<0.1	<0.1	0	-	-
Ionic Balance	%	0.01	-	-	-	-	-	-	-	-	-	-
pH (Lab)	pH_Units	0.01	-	-	-	-	-	7.16	7.14	0	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-	26	27	4	24	8
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-	8	8	0	5.3	-
TDS	mg/L	10	-	-	-	-	-	161	153	5	-	-
TSS	mg/L	2	-	-	-	-	-	48	60	22	95	66
Calcium (filtered)	mg/L	0.005	-	-	-	-	-	7	7	0	6.4	9
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-	3	3	0	3.4	12
Potassium (filtered)	mg/L	0.05	-	-	-	-	-	3	3	0	3.2	6

*RPDs have only been considered where a concentration is greater than the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Num	EB2034405	EB2034405		RN1300060		EB2100007	EB2100007		RN1300060	
Field ID	0874_SW125_201230	0874_QC108_201230		0874_QC208_201230		0874_SW121_201231	0874_QC109_201231		0874_QC209_201231	
Date	30/12/2020	30/12/2020		30/12/2020		31/12/2020	31/12/2020		31/12/2020	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.40	0.60	40	0.6	40	0.20	0.20	0	0.2	0
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.3	<0.4	0	0.29	0	0.2	0.2	0	0.16	22
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.21	0.31	38	0.21	0	0.04	0.04	0	0.024	50
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.05	0.07	33	0.08	46	<0.02	<0.02	0	0.013	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.64	0.96	40	1.1	53	0.22	0.23	4	0.21	5
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	<0.05	-	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.30	0.42	33	0.47	44	0.12	0.12	0	0.1	18
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.25	0.35	33	0.36	36	0.10	0.10	0	0.094	6
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	9.54	10.8	12	11	14	1.20	1.32	10	1.2	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.08	0.12	40	0.16	67	0.04	0.04	0	0.031	25
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	2.33	3.26	33	3.9	50	0.63	0.68	8	0.7	11
Carbon	mg/L	0.1	-	-	-	-	-	-	-	-	17	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	<0.02	-	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-	15	15	0	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-	61	59	3	62	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-	<1	<1	0	<5	0
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-	<1,000	<1,000	0	<5	0
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	61	59	3	-	-
Anions Total	meq/L	0.01	-	-	-	-	-	2.36	2.26	4	-	-
Cations Total	meq/L	0.01	-	-	-	-	-	2.82	2.82	0	-	-
Chloride	mg/L	0.1	-	-	-	-	-	30	28	7	28	7
Fluoride	mg/L	0.1	-	-	-	-	-	0.1	0.1	0	-	-
Ionic Balance	%	0.01	-	-	-	-	-	-	-	-	-	-
pH (Lab)	pH_Units	0.01	-	-	-	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-	25	25	0	22	13
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-	14	14	0	6.3	76
TDS	mg/L	10	-	-	-	-	-	175	166	5	-	-
TSS	mg/L	2	-	-	-	-	-	<5	<5	0	3	0
Calcium (filtered)	mg/L	0.005	-	-	-	-	-	26	26	0	23	12
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-	4	4	0	4.2	5
Potassium (filtered)	mg/L	0.05	-	-	-	-	-	4	4	0	3.8	5

*RPDs have only been considered where a concentration is greater than the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Num	EB2100007	EB2100007		RN1300060	
Field ID	0874_SW131_201231	0874_QC110_201231		0874_QC210_201231	
Date	31/12/2020	31/12/2020		31/12/2020	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL					
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.16	0.17	6	0.15	6
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	0.1	0	0.059	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.11	0.12	9	0.071	43
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.04	0.05	22	0.04	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.39	0.40	3	0.36	8
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorooctadecanoic Acid (PFODA)	µg/L	0.05	-	-	-	<0.05	-
Perfluorooctane sulfonamide (FOSA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluoropalmitic acid (PFHxDA)	µg/L	0.02	-	-	-	<0.02	-
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.16	0.18	12	0.15	6
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.08	0.12	40	0.078	3
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.02	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	3.38	3.66	8	2.6	26
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.10	0.09	11	0.091	9
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	1.47	1.66	12	1.3	12
Carbon	mg/L	0.1	-	-	-	-	-
8:2 diPAP (678-41-1)	µg/L	0.02	-	-	-	<0.02	-
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-
FOUEA (70887-84-2)	µg/L	0.01	-	-	-	<0.01	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-
Anions Total	meq/L	0.01	-	-	-	-	-
Cations Total	meq/L	0.01	-	-	-	-	-
Chloride	mg/L	0.1	-	-	-	-	-
Fluoride	mg/L	0.1	-	-	-	-	-
Ionic Balance	%	0.01	-	-	-	-	-
pH (Lab)	pH_Units	0.01	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-
TDS	mg/L	10	-	-	-	-	-
TSS	mg/L	2	-	-	-	-	-
Calcium (filtered)	mg/L	0.005	-	-	-	-	-
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-
Potassium (filtered)	mg/L	0.05	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	EB2034364	EB2034364	EB2034405	EB2034405	EB2100007
Field ID	0874_QC300_201227	0874_QC301_201228	0874_QC302_201229	0874_QC303_201230	0874_QC304_201231
Date	27/12/2020	28/12/2020	29/12/2020	30/12/2020	31/12/2020

Chemical Name	Unit	EQL					
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Lab Report Number	EB2034364	EB2034364	EB2034405	EB2034405	EB2100007
Field ID	0874_QC500_201227	0874_QC501_201228	0874_QC502_201229	0874_QC503_201230	0874_QC504_201231
Date	27/12/2020	28/12/2020	29/12/2020	30/12/2020	31/12/2020

Chemical Name	Unit	EQL					
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Appendix D

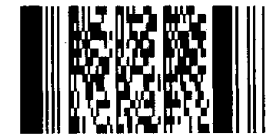
Chain of Custody Records



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Brisbane
Work Order Reference
EB2034364



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: 60612487 Client: AECOM Project Manager: _____

Phone: (_____)

ALS Compass COC Reference: 17392 # Samples: _____ Sampler: _____

Phone: (_____)

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:

Date / Time: <u>29.12.20 3:41pm</u>	Date / Time: <u>29/12/20 3:41pm</u>	Date / Time: <u>29/12/20 4:30pm</u>	Date / Time: <u>30.12.2020 7:55am</u>

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	
001	0874_SW129_201227		27/12/2020 12:58 PM	Water	ALS: 4 Non ALS: 0	No		X		
002	0874_QC100_201227		27/12/2020 12:59 PM	Water	ALS: 2 Non ALS: 0	No	X			
003	0874_QC500_201227		27/12/2020 01:02 PM	Water	ALS: 2 Non ALS: 0	No	X			
004	0874_SW112_201227		27/12/2020 01:32 PM	Water	ALS: 2 Non ALS: 0	No	X			
005	0874_SW014_201227		27/12/2020 01:57 PM	Water	ALS: 2 Non ALS: 0	No	X			
006	0874_SW017_201227		27/12/2020 02:10 PM	Water	ALS: 2 Non ALS: 0	No	X			
007	0874_SW127_201227		27/12/2020 02:27 PM	Water	ALS: 6 Non ALS: 0	No		X		Extra vol for lab QC
008	0874_SW123_201227		27/12/2020 03:03 PM	Water	ALS: 2 Non ALS: 0	No	X			
009	0874_QC101_201227		27/12/2020 03:04 PM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ADDITIONAL INFORMATION
							PFAS Waters WATER	Surface Waters - Fresh WATER	
010	0874_SW125_201227		27/12/2020 03:33 PM	Water	ALS: 2 Non ALS: 0	No	X		
011	0874_SW016_201227		27/12/2020 03:50 PM	Water	ALS: 2 Non ALS: 0	No	X		
012	0874_SW131_201227		27/12/2020 04:02 PM	Water	ALS: 2 Non ALS: 0	No	X		
013	0874_SW102_201227		27/12/2020 04:20 PM	Water	ALS: 2 Non ALS: 0	No	X		
014	0874_SW010_201227		27/12/2020 04:45 PM	Water	ALS: 6 Non ALS: 0	No	X		Extra bowl for lab QC
015	0874_SW132_201227		27/12/2020 05:04 PM	Water	ALS: 2 Non ALS: 0	No	X		
016	0874_SW121_201227		27/12/2020 05:22 PM	Water	ALS: 4 Non ALS: 0	No		X	
017	0874_SW117_201227		27/12/2020 05:38 PM	Water	ALS: 2 Non ALS: 0	No	X		
018	0874_SW118_201227		27/12/2020 05:51 PM	Water	ALS: 2 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							PFAS Waters WATER	Surface Waters - Fresh WATER		
019	0874_SW115_201227		27/12/2020 06:03 PM	Water	ALS: 2 Non ALS: 0	No	X			
020	0874_SW116_201227		27/12/2020 06:14 PM	Water	ALS: 4 Non ALS: 0	No		X		
021	0874_SW109_201227		27/12/2020 06:30 PM	Water	ALS: 2 Non ALS: 0	No	X			
022	0874_SW108_201227		27/12/2020 06:38 PM	Water	ALS: 2 Non ALS: 0	No	X			
023	0874_QC300_201227		27/12/2020 06:43 PM	Water	ALS: 2 Non ALS: 0	No	X			
024	0874_SW129_201228		28/12/2020 08:56 AM	Water	ALS: 4 Non ALS: 0	No		X		
025	0874_SW112_201228		28/12/2020 09:58 AM	Water	ALS: 2 Non ALS: 0	No	X			
026	0874_QC102_201228		28/12/2020 09:59 AM	Water	ALS: 2 Non ALS: 0	No	X			
027	0874_SW014_201228		28/12/2020 10:22 AM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	
028	0874_SW017_201228		28/12/2020 10:38 AM	Water	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
029	0874_SW127_201228		28/12/2020 11:01 AM	Water	ALS: 4 Non ALS: 0	No		X		
030	0874_SW121_201228		28/12/2020 11:47 AM	Water	ALS: 4 Non ALS: 0	No		X		
031	0874_SW016_201228		28/12/2020 12:14 PM	Water	ALS: 2 Non ALS: 0	No	X			
032	0874_SW131_201228		28/12/2020 12:26 PM	Water	ALS: 6 Non ALS: 0	No	X			Extra vol for lab QC
033	0874_SW102_201228		28/12/2020 12:43 PM	Water	ALS: 2 Non ALS: 0	No	X			
034	0874_SW125_201228		28/12/2020 01:09 PM	Water	ALS: 2 Non ALS: 0	No	X			
035	0874_SW123_201228		28/12/2020 01:26 PM	Water	ALS: 2 Non ALS: 0	No	X			
036	0874_SW010_201228		28/12/2020 02:00 PM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_SW132_201228		28/12/2020 02:13 PM	Water	ALS: 2 Non ALS: 0	No	X			
038	0874_SW117_201228		28/12/2020 02:28 PM	Water	ALS: 2 Non ALS: 0	No	X			
039	0874_SW118_201228		28/12/2020 02:41 PM	Water	ALS: 2 Non ALS: 0	No	X			
040	0874_SW115_201228		28/12/2020 02:50 PM	Water	ALS: 2 Non ALS: 0	No	X			
041	0874_QC103_201227		27/12/2020 06:15 PM	Water	ALS: 2 Non ALS: 0	No		Partial 6/7		
042	0874_SW116_201228		28/12/2020 03:40 PM	Water	ALS: 4 Non ALS: 0	No		X		
043	0874_QC104_201228		28/12/2020 03:42 PM	Water	ALS: 4 Non ALS: 0	No		X		
044	0874_SW109_201228		28/12/2020 03:56 PM	Water	ALS: 2 Non ALS: 0	No	X			
045	0874_SW108_201228		28/12/2020 04:07 PM	Water	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	
046	0874_QC501_201228		28/12/2020 04:37 PM	Water	ALS: 2 Non ALS: 0	No	X			
047	0874_QC301_201228		28/12/2020 05:36 PM	Water	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
041	0874_QC103_201227	Surface Waters - Fresh WATER	Water	<ul style="list-style-type: none"> - EP002 Dissolved Organic Carbon (DOC) - EA005P pH (PCT) - EA025H Suspended Solids - Standard Level - EA015H Total Dissolved Solids - Standard Level - EN055 - PG Ionic Balance by ED037P, ED041G, ED045G & ED093F - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/123/20

/ ET2020AECOMAU000

1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW129_201227	HDPE (no PTFE)	20 mL	00352005017662	Grey	No	
001	0874_SW129_201227	HDPE (no PTFE)	20 mL	00352005004972	Grey	No	
001	0874_SW129_201227	Clear Plastic Bottle - Natural	500 mL	00070719080088	Green	No	
001	0874_SW129_201227	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019055806	Purple	No	
002	0874_QC100_201227	HDPE (no PTFE)	20 mL	00352005017689	Grey	No	
002	0874_QC100_201227	HDPE (no PTFE)	20 mL	00352005017720	Grey	No	
003	0874_QC500_201227	HDPE (no PTFE)	20 mL	00350019028962	Grey	No	
003	0874_QC500_201227	HDPE (no PTFE)	20 mL	00350019028685	Grey	No	
004	0874_SW112_201227	HDPE (no PTFE)	20 mL	00352005017701	Grey	No	
004	0874_SW112_201227	HDPE (no PTFE)	20 mL	00352005017715	Grey	No	
005	0874_SW014_201227	HDPE (no PTFE)	20 mL	00352005003618	Grey	No	
005	0874_SW014_201227	HDPE (no PTFE)	20 mL	00352005003453	Grey	No	
006	0874_SW017_201227	HDPE (no PTFE)	20 mL	00352005004993	Grey	No	
006	0874_SW017_201227	HDPE (no PTFE)	20 mL	00352005017741	Grey	No	
007	0874_SW127_201227	HDPE (no PTFE)	20 mL	00352005017700	Grey	No	
007	0874_SW127_201227	HDPE (no PTFE)	20 mL	00352005003603	Grey	No	
007	0874_SW127_201227	HDPE (no PTFE)	20 mL	00352005003564	Grey	No	
007	0874_SW127_201227	HDPE (no PTFE)	20 mL	00352005017673	Grey	No	
007	0874_SW127_201227	Clear Plastic Bottle - Natural	500 mL	00070719080086	Green	No	
007	0874_SW127_201227	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220039009	Purple	No	
008	0874_SW123_201227	HDPE (no PTFE)	20 mL	00352005003525	Grey	No	
008	0874_SW123_201227	HDPE (no PTFE)	20 mL	00352005003440	Grey	No	
009	0874_QC101_201227	HDPE (no PTFE)	20 mL	00352005003357	Grey	No	
009	0874_QC101_201227	HDPE (no PTFE)	20 mL	00352005003455	Grey	No	
010	0874_SW125_201227	HDPE (no PTFE)	20 mL	00352005003545	Grey	No	
010	0874_SW125_201227	HDPE (no PTFE)	20 mL	00352005003569	Grey	No	

**CHAIN OF CUSTODY**

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

011	0874_SW016_201227	HDPE (no PTFE)	20 mL	00350019028641	Grey	No	
011	0874_SW016_201227	HDPE (no PTFE)	20 mL	00350019028779	Grey	No	
012	0874_SW131_201227	HDPE (no PTFE)	20 mL	00352005004886	Grey	No	
012	0874_SW131_201227	HDPE (no PTFE)	20 mL	00352005005023	Grey	No	
013	0874_SW102_201227	HDPE (no PTFE)	20 mL	00352005004934	Grey	No	
013	0874_SW102_201227	HDPE (no PTFE)	20 mL	00352005017732	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005017685	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005004965	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005005032	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005004921	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005003389	Grey	No	
014	0874_SW010_201227	HDPE (no PTFE)	20 mL	00352005003376	Grey	No	
015	0874_SW132_201227	HDPE (no PTFE)	20 mL	00352005004845	Grey	No	
015	0874_SW132_201227	HDPE (no PTFE)	20 mL	00352005004952	Grey	No	
016	0874_SW121_201227	HDPE (no PTFE)	20 mL	00352005004998	Grey	No	
016	0874_SW121_201227	HDPE (no PTFE)	20 mL	00352005004967	Grey	No	
016	0874_SW121_201227	Clear Plastic Bottle - Natural	500 mL	00071119200735	Green	No	
016	0874_SW121_201227	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019055338	Purple	No	
017	0874_SW117_201227	HDPE (no PTFE)	20 mL	00352005005001	Grey	No	
017	0874_SW117_201227	HDPE (no PTFE)	20 mL	00352005017675	Grey	No	
018	0874_SW118_201227	HDPE (no PTFE)	20 mL	00352005003638	Grey	No	
018	0874_SW118_201227	HDPE (no PTFE)	20 mL	00352005003537	Grey	No	
019	0874_SW115_201227	HDPE (no PTFE)	20 mL	00352005004887	Grey	No	
019	0874_SW115_201227	HDPE (no PTFE)	20 mL	00352005004966	Grey	No	
020	0874_SW116_201227	HDPE (no PTFE)	20 mL	00352005003504	Grey	No	
020	0874_SW116_201227	HDPE (no PTFE)	20 mL	00352005003386	Grey	No	
020	0874_SW116_201227	Clear Plastic Bottle - Natural	500 mL	00071119200759	Green	No	

**CHAIN OF CUSTODY**

COC#: 17392

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

020	0874_SW116_201227	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019055500	Purple	No	
021	0874_SW109_201227	HDPE (no PTFE)	20 mL	00352005017678	Grey	No	
021	0874_SW109_201227	HDPE (no PTFE)	20 mL	00352005017727	Grey	No	
022	0874_SW108_201227	HDPE (no PTFE)	20 mL	00352005003451	Grey	No	
022	0874_SW108_201227	HDPE (no PTFE)	20 mL	00352005003540	Grey	No	
023	0874_QC300_201227	HDPE (no PTFE)	20 mL	00352005003571	Grey	No	
023	0874_QC300_201227	HDPE (no PTFE)	20 mL	00352005003633	Grey	No	
024	0874_SW129_201228	HDPE (no PTFE)	20 mL	00352005017711	Grey	No	
024	0874_SW129_201228	HDPE (no PTFE)	20 mL	00352005004915	Grey	No	
024	0874_SW129_201228	Clear Plastic Bottle - Natural	500 mL	00071119200764	Green	No	
024	0874_SW129_201228	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019055458	Purple	No	
025	0874_SW112_201228	HDPE (no PTFE)	20 mL	00352005003373	Grey	No	
025	0874_SW112_201228	HDPE (no PTFE)	20 mL	00352005003464	Grey	No	
026	0874_QC102_201228	HDPE (no PTFE)	20 mL	00352005003383	Grey	No	
026	0874_QC102_201228	HDPE (no PTFE)	20 mL	00352005003395	Grey	No	
027	0874_SW014_201228	HDPE (no PTFE)	20 mL	00352005003637	Grey	No	
027	0874_SW014_201228	HDPE (no PTFE)	20 mL	00352005003474	Grey	No	
028	0874_SW017_201228	HDPE (no PTFE)	20 mL	00352005017693	Grey	No	
028	0874_SW017_201228	HDPE (no PTFE)	20 mL	00352005004905	Grey	No	
028	0874_SW017_201228	HDPE (no PTFE)	20 mL	00352005005036	Grey	No	
028	0874_SW017_201228	HDPE (no PTFE)	20 mL	00352005017714	Grey	No	
029	0874_SW127_201228	Clear Plastic Bottle - Natural	500 mL	00071119200757	Green	No	
029	0874_SW127_201228	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077689	Purple	No	
029	0874_SW127_201228	HDPE (no PTFE)	20 mL	00352005003528	Grey	No	
029	0874_SW127_201228	HDPE (no PTFE)	20 mL	00352005003417	Grey	No	
030	0874_SW121_201228	Clear Plastic Bottle - Natural	500 mL	00070719080074	Green	No	
030	0874_SW121_201228	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077619	Purple	No	



CHAIN OF CUSTODY

COC#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

030	0874_SW121_201228	HDPE (no PTFE)	20 mL	00352005004908	Grey	No	
030	0874_SW121_201228	HDPE (no PTFE)	20 mL	00352005017735	Grey	No	
031	0874_SW016_201228	HDPE (no PTFE)	20 mL	00352005017730	Grey	No	
031	0874_SW016_201228	HDPE (no PTFE)	20 mL	00352005004960	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00352005003409	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00352005017696	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00350019029288	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00352005017687	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00352005003641	Grey	No	
032	0874_SW131_201228	HDPE (no PTFE)	20 mL	00350019029189	Grey	No	
033	0874_SW102_201228	HDPE (no PTFE)	20 mL	00352005004968	Grey	No	
033	0874_SW102_201228	HDPE (no PTFE)	20 mL	00352005017655	Grey	No	
034	0874_SW125_201228	HDPE (no PTFE)	20 mL	00352005004889	Grey	No	
034	0874_SW125_201228	HDPE (no PTFE)	20 mL	00352005004909	Grey	No	
035	0874_SW123_201228	HDPE (no PTFE)	20 mL	00352005005025	Grey	No	
035	0874_SW123_201228	HDPE (no PTFE)	20 mL	00352005004929	Grey	No	
036	0874_SW010_201228	HDPE (no PTFE)	20 mL	00352005004970	Grey	No	
036	0874_SW010_201228	HDPE (no PTFE)	20 mL	00352005004872	Grey	No	
037	0874_SW132_201228	HDPE (no PTFE)	20 mL	00352005004946	Grey	No	
037	0874_SW132_201228	HDPE (no PTFE)	20 mL	00352005005005	Grey	No	
038	0874_SW117_201228	HDPE (no PTFE)	20 mL	00352005003565	Grey	No	
038	0874_SW117_201228	HDPE (no PTFE)	20 mL	00352005003391	Grey	No	
039	0874_SW118_201228	HDPE (no PTFE)	20 mL	00350019028883	Grey	No	
039	0874_SW118_201228	HDPE (no PTFE)	20 mL	00350019028667	Grey	No	
040	0874_SW115_201228	HDPE (no PTFE)	20 mL	00352005004842	Grey	No	
040	0874_SW115_201228	HDPE (no PTFE)	20 mL	00352005004900	Grey	No	
041	0874_QC103_201227	Clear Plastic Bottle - Natural	500 mL	00070719080077	Green	No	

**CHAIN OF CUSTODY**

ALS C0C#: 17392 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

041	0874_QC103_201227	Amber VOC Vial - Sulfuric Acid	40 mL	00160719025287	Purple	No	
042	0874_SW116_201228	Clear Plastic Bottle - Natural	500 mL	00071119200776	Green	No	
042	0874_SW116_201228	HDPE (no PTFE)	20 mL	00350019028683	Grey	No	
042	0874_SW116_201228	HDPE (no PTFE)	20 mL	00350019028754	Grey	No	
042	0874_SW116_201228	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019054952	Purple	No	
043	0874_QC104_201228	Clear Plastic Bottle - Natural	500 mL	00071119200797	Green	No	
043	0874_QC104_201228	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181019055769	Purple	No	
043	0874_QC104_201228	HDPE (no PTFE)	20 mL	00352005004958	Grey	No	
043	0874_QC104_201228	HDPE (no PTFE)	20 mL	00352005005016	Grey	No	
044	0874_SW109_201228	HDPE (no PTFE)	20 mL	00352005004890	Grey	No	
044	0874_SW109_201228	HDPE (no PTFE)	20 mL	00352005005039	Grey	No	
045	0874_SW108_201228	HDPE (no PTFE)	20 mL	00350019028750	Grey	No	
045	0874_SW108_201228	HDPE (no PTFE)	20 mL	00350019028776	Grey	No	
046	0874_QC501_201228	HDPE (no PTFE)	20 mL	00350019028832	Grey	No	
046	0874_QC501_201228	HDPE (no PTFE)	20 mL	00350019028718	Grey	No	
047	0874_QC301_201228	HDPE (no PTFE)	20 mL	00352005017729	Grey	No	
047	0874_QC301_201228	HDPE (no PTFE)	20 mL	00352005004938	Grey	No	

Total Bottle Count: ALS: 124, Non ALS: 0



7/1

Environmental Division
Brisbane
Work Order Reference
EB2034405



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

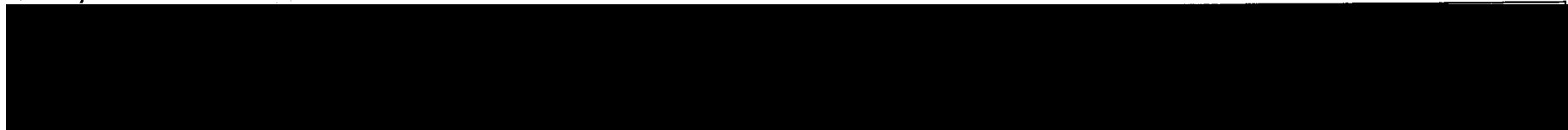
Project: QLD_0874_PFA50M Client: BECON Project Manager: [Redacted]

ALS Compass COC Reference: 17398 # Samples: 46 Sampler: [Redacted]
Phone: [Redacted]

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only
	Custody seal intact? YES NO N/A
	Free ice / frozen ice bricks upon receipt? <input checked="" type="radio"/> YES NO N/A
	Random sample temperature on receipt? <u>16.6, 12.7°C</u>

Custody:



Date / Time: <u>30/12/20</u> <u>16:14</u>	Date / Time: <u>30/12/20</u> <u>16:14</u>	Date / Time: [Redacted]	Date / Time: <u>31/12/2020</u> <u>7:55</u>
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RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_201229		29/12/2020 08:00 AM	Water	ALS: 2 Non ALS: 0	No	X			
002	0874_SW118_201229		29/12/2020 08:16 AM	Water	ALS: 4 Non ALS: 0	No	X			Extra vol for lab QC
003	0874_SW115_201229		29/12/2020 08:26 AM	Water	ALS: 2 Non ALS: 0	No	X			
004	0874_SW116_201229		29/12/2020 08:47 AM	Water	ALS: 4 Non ALS: 0	No		X		
005	0874_SW109_201229		29/12/2020 09:00 AM	Water	ALS: 2 Non ALS: 0	No	X			
006	0874_SW108_201229		29/12/2020 09:12 AM	Water	ALS: 2 Non ALS: 0	No	X			
007	0874_SW112_201229		29/12/2020 11:09 AM	Water	ALS: 2 Non ALS: 0	No	X			
008	0874_QC502_201229		29/12/2020 11:11 AM	Water	ALS: 2 Non ALS: 0	No	X			
009	0874_SW014_201229		29/12/2020 11:30 AM	Water	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 17398

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW017_201229		29/12/2020 11:42 AM	Water	ALS: 2 Non ALS: 0	No	X			
011	0874_SW127_201229		29/12/2020 12:09 PM	Water	ALS: 4 Non ALS: 0	No		X		
012	0874_QC105_201229		29/12/2020 12:10 PM	Water	ALS: 4 Non ALS: 0	No		X		
013	0874_SW121_201229		29/12/2020 12:39 PM	Water	ALS: 4 Non ALS: 0	No		X		
014	0874_SW123_201229		29/12/2020 01:13 PM	Water	ALS: 2 Non ALS: 0	No	X			
015	0874_SW125_201229		29/12/2020 01:33 PM	Water	ALS: 2 Non ALS: 0	No	X			
016	0874_SW131_201229		29/12/2020 02:06 PM	Water	ALS: 6 Non ALS: 0	No	X			Extra vol for lab QC
017	0874_SW016_201229		29/12/2020 02:15 PM	Water	ALS: 2 Non ALS: 0	No	X			
018	0874_SW102_201229		29/12/2020 02:32 PM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC106_201229		29/12/2020 02:33 PM	Water	ALS: 2 Non ALS: 0	No	X			
020	0874_SW010_201229		29/12/2020 02:59 PM	Water	ALS: 2 Non ALS: 0	No	X			
021	0874_SW132_201229		29/12/2020 03:10 PM	Water	ALS: 2 Non ALS: 0	No	X			
022	0874_QC302_201229		29/12/2020 05:49 PM	Water	ALS: 2 Non ALS: 0	No	X			
023	0874_SW129_201229		29/12/2020 06:22 PM	Water	ALS: 4 Non ALS: 0	No	X			
024	0874_SW129_201230		30/12/2020 08:35 AM	Water	ALS: 4 Non ALS: 0	No		X		
025	0874_QC107_201230		30/12/2020 08:36 AM	Water	ALS: 4 Non ALS: 0	No		X		
026	0874_QC503_201230		30/12/2020 08:41 AM	Water	ALS: 2 Non ALS: 0	No	X			
027	0874_SW112_201230		30/12/2020 09:26 AM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW014_201230		30/12/2020 09:47 AM	Water	ALS: 2 Non ALS: 0	No	X			
029	0874_SW017_201230		30/12/2020 10:01 AM	Water	ALS: 2 Non ALS: 0	No	X			
030	0874_SW127_201230		30/12/2020 10:20 AM	Water	ALS: 4 Non ALS: 0	No		X		
031	0874_SW121_201230		30/12/2020 10:48 AM	Water	ALS: 6 Non ALS: 0	No		X		Extra vol for lab QC
032	0874_QC108_201230		30/12/2020 11:21 AM	Water	ALS: 2 Non ALS: 0	No	X			
033	0874_SW125_201230		30/12/2020 11:22 AM	Water	ALS: 2 Non ALS: 0	No	X			
034	0874_SW131_201230		30/12/2020 11:43 AM	Water	ALS: 2 Non ALS: 0	No	X			
035	0874_SW016_201230		30/12/2020 12:13 PM	Water	ALS: 2 Non ALS: 0	No	X			
036	0874_SW102_201230		30/12/2020 12:28 PM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_SW123_201230		30/12/2020 12:47 PM	Water	ALS: 2 Non ALS: 0	No	X			
038	0874_SW010_201230		30/12/2020 01:05 PM	Water	ALS: 6 Non ALS: 0	No	X			Extra vol for lab QC
039	0874_SW132_201230		30/12/2020 01:26 PM	Water	ALS: 2 Non ALS: 0	No	X			
040	0874_SW117_201230		30/12/2020 01:45 PM	Water	ALS: 2 Non ALS: 0	No	X			
041	0874_SW118_201230		30/12/2020 02:01 PM	Water	ALS: 2 Non ALS: 0	No	X			
042	0874_QC303_201230		30/12/2020 02:04 PM	Water	ALS: 2 Non ALS: 0	No	X			
043	0874_SW115_201230		30/12/2020 02:11 PM	Water	ALS: 2 Non ALS: 0	No	X			
044	0874_SW116_201230		30/12/2020 02:27 PM	Water	ALS: 4 Non ALS: 0	No		X		
045	0874_SW109_201230		30/12/2020 02:39 PM	Water	ALS: 2 Non ALS: 0	No	X			

**CHAIN OF CUSTODY**

COC#: 17398

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000

1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							PFAS Waters WATER	Surface Waters - Fresh WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SW108_201230		30/12/2020 02:49 PM	Water	ALS: 2 Non ALS: 0	No	X			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_201229	HDPE (no PTFE)	20 mL	00352005004911	Grey	No	
001	0874_SW117_201229	HDPE (no PTFE)	20 mL	00352005004874	Grey	No	
002	0874_SW118_201229	HDPE (no PTFE)	20 mL	00352005017661	Grey	No	
002	0874_SW118_201229	HDPE (no PTFE)	20 mL	00352005017684	Grey	No	
002	0874_SW118_201229	HDPE (no PTFE)	20 mL	00352005004987	Grey	No	
002	0874_SW118_201229	HDPE (no PTFE)	20 mL	00352005017698	Grey	No	
003	0874_SW115_201229	HDPE (no PTFE)	20 mL	00352005017716	Grey	No	
003	0874_SW115_201229	HDPE (no PTFE)	20 mL	00352005017677	Grey	No	
004	0874_SW116_201229	Clear Plastic Bottle - Natural	500 mL	00071119200730	Green	No	
004	0874_SW116_201229	HDPE (no PTFE)	20 mL	00352005017719	Grey	No	
004	0874_SW116_201229	HDPE (no PTFE)	20 mL	00352005005006	Grey	No	
004	0874_SW116_201229	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077732	Purple	No	
005	0874_SW109_201229	HDPE (no PTFE)	20 mL	00350019028694	Grey	No	
005	0874_SW109_201229	HDPE (no PTFE)	20 mL	00350019028679	Grey	No	
006	0874_SW108_201229	HDPE (no PTFE)	20 mL	00352005017725	Grey	No	
006	0874_SW108_201229	HDPE (no PTFE)	20 mL	00352005005015	Grey	No	
007	0874_SW112_201229	HDPE (no PTFE)	20 mL	00352005003614	Grey	No	
007	0874_SW112_201229	HDPE (no PTFE)	20 mL	00352005003414	Grey	No	
008	0874_QC502_201229	HDPE (no PTFE)	20 mL	00350019028898	Grey	No	
008	0874_QC502_201229	HDPE (no PTFE)	20 mL	00350019028787	Grey	No	
009	0874_SW014_201229	HDPE (no PTFE)	20 mL	00352005017660	Grey	No	
009	0874_SW014_201229	HDPE (no PTFE)	20 mL	00352005005012	Grey	No	
010	0874_SW017_201229	HDPE (no PTFE)	20 mL	00350019028947	Grey	No	
010	0874_SW017_201229	HDPE (no PTFE)	20 mL	00350019028629	Grey	No	
011	0874_SW127_201229	Clear Plastic Bottle - Natural	500 mL	00070719080094	Green	No	
011	0874_SW127_201229	HDPE (no PTFE)	20 mL	00350019028651	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/123/20

SAMPLER MOBILE:
 / ET2020AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

011	0874_SW127_201229	HDPE (no PTFE)	20 mL	00350019028786	Grey	No	
011	0874_SW127_201229	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077712	Purple	No	
012	0874_QC105_201229	Clear Plastic Bottle - Natural	500 mL	00071119200750	Green	No	
012	0874_QC105_201229	HDPE (no PTFE)	20 mL	00350019028930	Grey	No	
012	0874_QC105_201229	HDPE (no PTFE)	20 mL	00350019028749	Grey	No	
012	0874_QC105_201229	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077393	Purple	No	
013	0874_SW121_201229	Clear Plastic Bottle - Natural	500 mL	00070719080085	Green	No	
013	0874_SW121_201229	HDPE (no PTFE)	20 mL	00350019028624	Grey	No	
013	0874_SW121_201229	HDPE (no PTFE)	20 mL	00350019028731	Grey	No	
013	0874_SW121_201229	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018076931	Purple	No	
014	0874_SW123_201229	HDPE (no PTFE)	20 mL	00350019028712	Grey	No	
014	0874_SW123_201229	HDPE (no PTFE)	20 mL	00350019028715	Grey	No	
015	0874_SW125_201229	HDPE (no PTFE)	20 mL	00350019028628	Grey	No	
015	0874_SW125_201229	HDPE (no PTFE)	20 mL	00350019028892	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028666	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028870	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028709	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028690	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028824	Grey	No	
016	0874_SW131_201229	HDPE (no PTFE)	20 mL	00350019028767	Grey	No	
017	0874_SW016_201229	HDPE (no PTFE)	20 mL	00352005005024	Grey	No	
017	0874_SW016_201229	HDPE (no PTFE)	20 mL	00352005017736	Grey	No	
018	0874_SW102_201229	HDPE (no PTFE)	20 mL	00350019025238	Grey	No	
018	0874_SW102_201229	HDPE (no PTFE)	20 mL	00350019028527	Grey	No	
019	0874_QC106_201229	HDPE (no PTFE)	20 mL	00350019028761	Grey	No	
019	0874_QC106_201229	HDPE (no PTFE)	20 mL	00350019028777	Grey	No	
020	0874_SW010_201229	HDPE (no PTFE)	20 mL	00350019028728	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL INVOICES TO: [REDACTED]

020	0874_SW010_201229	HDPE (no PTFE)	20 mL	00350019028626	Grey	No	
021	0874_SW132_201229	HDPE (no PTFE)	20 mL	00350019028897	Grey	No	
021	0874_SW132_201229	HDPE (no PTFE)	20 mL	00350019028697	Grey	No	
022	0874_QC302_201229	HDPE (no PTFE)	20 mL	00350019028811	Grey	No	
022	0874_QC302_201229	HDPE (no PTFE)	20 mL	00350019028746	Grey	No	
023	0874_SW129_201229	Clear Plastic Bottle - Natural	500 mL	00071119200752	Green	No	
023	0874_SW129_201229	HDPE (no PTFE)	20 mL	00350019028937	Grey	No	
023	0874_SW129_201229	HDPE (no PTFE)	20 mL	00350019028704	Grey	No	
023	0874_SW129_201229	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018077724	Purple	No	
024	0874_SW129_201230	Clear Plastic Bottle - Natural	500 mL	00071119200791	Green	No	
024	0874_SW129_201230	HDPE (no PTFE)	20 mL	00350019028727	Grey	No	
024	0874_SW129_201230	HDPE (no PTFE)	20 mL	00350019028817	Grey	No	
024	0874_SW129_201230	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064783	Purple	No	
025	0874_QC107_201230	Clear Plastic Bottle - Natural	500 mL	00070719080087	Green	No	
025	0874_QC107_201230	HDPE (no PTFE)	20 mL	00350019028780	Grey	No	
025	0874_QC107_201230	HDPE (no PTFE)	20 mL	00350019028839	Grey	No	
025	0874_QC107_201230	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064736	Purple	No	
026	0874_QC503_201230	HDPE (no PTFE)	20 mL	00350019028840	Grey	No	
026	0874_QC503_201230	HDPE (no PTFE)	20 mL	00350019028842	Grey	No	
027	0874_SW112_201230	HDPE (no PTFE)	20 mL	00350019028940	Grey	No	
027	0874_SW112_201230	HDPE (no PTFE)	20 mL	00350019028799	Grey	No	
028	0874_SW014_201230	HDPE (no PTFE)	20 mL	00350019028681	Grey	No	
028	0874_SW014_201230	HDPE (no PTFE)	20 mL	00350019028790	Grey	No	
029	0874_SW017_201230	HDPE (no PTFE)	20 mL	00350019028956	Grey	No	
029	0874_SW017_201230	HDPE (no PTFE)	20 mL	00350019028942	Grey	No	
030	0874_SW127_201230	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064765	Purple	No	
030	0874_SW127_201230	HDPE (no PTFE)	20 mL	00350019028974	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days Biohazard info:	LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:
CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED] QUOTE NO: TV/123/20 / ET2020AECOMAU0001	

EMAIL INVOICES TO: [REDACTED]

ID	Sample ID	Material	Volume	Barcode	Color	Temp	Notes
030	0874_SW127_201230	HDPE (no PTFE)	20 mL	00350019029135	Grey	No	
030	0874_SW127_201230	Clear Plastic Bottle - Natural	500 mL	00071119200727	Green	No	
031	0874_SW121_201230	Clear Plastic Bottle - Natural	500 mL	00071119200773	Green	No	
031	0874_SW121_201230	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064786	Purple	No	
031	0874_SW121_201230	HDPE (no PTFE)	20 mL	00350019028671	Grey	No	
031	0874_SW121_201230	HDPE (no PTFE)	20 mL	00350019028644	Grey	No	
031	0874_SW121_201230	HDPE (no PTFE)	20 mL	00350019028781	Grey	No	
031	0874_SW121_201230	HDPE (no PTFE)	20 mL	00350019028822	Grey	No	
032	0874_QC108_201230	HDPE (no PTFE)	20 mL	00350019028845	Grey	No	
032	0874_QC108_201230	HDPE (no PTFE)	20 mL	00350019028826	Grey	No	
033	0874_SW125_201230	HDPE (no PTFE)	20 mL	00350019028836	Grey	No	
033	0874_SW125_201230	HDPE (no PTFE)	20 mL	00350019028769	Grey	No	
034	0874_SW131_201230	HDPE (no PTFE)	20 mL	00350019028857	Grey	No	
034	0874_SW131_201230	HDPE (no PTFE)	20 mL	00350019028792	Grey	No	
035	0874_SW016_201230	HDPE (no PTFE)	20 mL	00350019028664	Grey	No	
035	0874_SW016_201230	HDPE (no PTFE)	20 mL	00350019028797	Grey	No	
036	0874_SW102_201230	HDPE (no PTFE)	20 mL	00350019028673	Grey	No	
036	0874_SW102_201230	HDPE (no PTFE)	20 mL	00350019028949	Grey	No	
037	0874_SW123_201230	HDPE (no PTFE)	20 mL	00350019028757	Grey	No	
037	0874_SW123_201230	HDPE (no PTFE)	20 mL	00350019028909	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028691	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028713	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028763	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028931	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028872	Grey	No	
038	0874_SW010_201230	HDPE (no PTFE)	20 mL	00350019028862	Grey	No	
039	0874_SW132_201230	HDPE (no PTFE)	20 mL	00350019028911	Grey	No	

**CHAIN OF CUSTODY**

COC#: 17398 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/123/20

SAMPLER MOBILE:

/ ET2020AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

039	0874_SW132_201230	HDPE (no PTFE)	20 mL	00350019028700	Grey	No	
040	0874_SW117_201230	HDPE (no PTFE)	20 mL	00350019028726	Grey	No	
040	0874_SW117_201230	HDPE (no PTFE)	20 mL	00350019028950	Grey	No	
041	0874_SW118_201230	HDPE (no PTFE)	20 mL	00350019028739	Grey	No	
041	0874_SW118_201230	HDPE (no PTFE)	20 mL	00350019028805	Grey	No	
042	0874_QC303_201230	HDPE (no PTFE)	20 mL	00350019028948	Grey	No	
042	0874_QC303_201230	HDPE (no PTFE)	20 mL	00350019028904	Grey	No	
043	0874_SW115_201230	HDPE (no PTFE)	20 mL	00350019028875	Grey	No	
043	0874_SW115_201230	HDPE (no PTFE)	20 mL	00350019028952	Grey	No	
044	0874_SW116_201230	Clear Plastic Bottle - Natural	500 mL	00070719080084	Green	No	
044	0874_SW116_201230	HDPE (no PTFE)	20 mL	00350019028717	Grey	No	
044	0874_SW116_201230	HDPE (no PTFE)	20 mL	00350019028953	Grey	No	
044	0874_SW116_201230	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064821	Purple	No	
045	0874_SW109_201230	HDPE (no PTFE)	20 mL	00350019028853	Grey	No	
045	0874_SW109_201230	HDPE (no PTFE)	20 mL	00350019028775	Grey	No	
046	0874_SW108_201230	HDPE (no PTFE)	20 mL	00350019028874	Grey	No	
046	0874_SW108_201230	HDPE (no PTFE)	20 mL	00350019028944	Grey	No	

Total Bottle Count: ALS: 124, Non ALS: 0



Environmental Division
 Brisbane
 Work Order Reference
EB2100007



Telephone : - 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: 60612487 Client: AECOM Project Manager: _____
 Phone: _____

ALS Compass CDC Reference: 17413 # Samples: 22 Sampler: _____
 Phone: _____

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:

Date / Time: <u>04.1.21</u> <u>1200</u>	Date / Time: <u>4/1/21</u> <u>1200.</u>	Date / Time:	Date / Time: <u>5.1.21</u> <u>08:20</u>

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/123/20 / ET2020AECOMAU0001

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_201231	Clear Plastic Bottle - Natural	500 mL	00070719080072	Green	No	
001	0874_SW127_201231	HDPE (no PTFE)	20 mL	00350019028913	Grey	No	
001	0874_SW127_201231	HDPE (no PTFE)	20 mL	00350019028807	Grey	No	
001	0874_SW127_201231	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064807	Purple	No	
002	0874_QC504_201231	HDPE (no PTFE)	20 mL	00350019028928	Grey	No	
002	0874_QC504_201231	HDPE (no PTFE)	20 mL	00350019028843	Grey	No	
003	0874_SW129_201231	HDPE (no PTFE)	20 mL	00350019028642	Grey	No	
003	0874_SW129_201231	HDPE (no PTFE)	20 mL	00350019028795	Grey	No	
003	0874_SW129_201231	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064787	Purple	No	
003	0874_SW129_201231	Clear Plastic Bottle - Natural	500 mL	00070719080076	Green	No	
004	0874_SW112_201231	HDPE (no PTFE)	20 mL	00350019028711	Grey	No	
004	0874_SW112_201231	HDPE (no PTFE)	20 mL	00350019028800	Grey	No	
005	0874_SW014_201231	HDPE (no PTFE)	20 mL	00350019028830	Grey	No	
005	0874_SW014_201231	HDPE (no PTFE)	20 mL	00350019028868	Grey	No	
006	0874_SW017_201231	HDPE (no PTFE)	20 mL	00350019028701	Grey	No	
006	0874_SW017_201231	HDPE (no PTFE)	20 mL	00350019028732	Grey	No	
007	0874_SW121_201231	Clear Plastic Bottle - Natural	500 mL	00070719080047	Green	No	
007	0874_SW121_201231	HDPE (no PTFE)	20 mL	00350019028723	Grey	No	
007	0874_SW121_201231	HDPE (no PTFE)	20 mL	00350019028623	Grey	No	
007	0874_SW121_201231	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064728	Purple	No	
008	0874_QC109_201231	HDPE (no PTFE)	20 mL	00350019028741	Grey	No	
008	0874_QC109_201231	HDPE (no PTFE)	20 mL	00350019028707	Grey	No	
008	0874_QC109_201231	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064835	Purple	No	
008	0874_QC109_201231	Clear Plastic Bottle - Natural	500 mL	00070719087104	Green	No	
009	0874_SW125_201231	HDPE (no PTFE)	20 mL	00350019028692	Grey	No	
009	0874_SW125_201231	HDPE (no PTFE)	20 mL	00350019028619	Grey	No	

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/123/20 / ET2020AECOMAU000
 1

Random Sample Temperature on Receipt: C
 Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

010	0874_SW102_201231	HDPE (no PTFE)	20 mL	00350019028722	Grey	No	
010	0874_SW102_201231	HDPE (no PTFE)	20 mL	00350019028896	Grey	No	
010	0874_SW102_201231	HDPE (no PTFE)	20 mL	00350019028650	Grey	No	
010	0874_SW102_201231	HDPE (no PTFE)	20 mL	00350019028833	Grey	No	
011	0874_SW131_201231	HDPE (no PTFE)	20 mL	00350019028705	Grey	No	
011	0874_SW131_201231	HDPE (no PTFE)	20 mL	00350019028738	Grey	No	
012	0874_QC110_201231	HDPE (no PTFE)	20 mL	00350019028893	Grey	No	
012	0874_QC110_201231	HDPE (no PTFE)	20 mL	00350019028784	Grey	No	
013	0874_SW123_201231	HDPE (no PTFE)	20 mL	00350019028877	Grey	No	
013	0874_SW123_201231	HDPE (no PTFE)	20 mL	00350019028663	Grey	No	
014	0874_SW010_201231	HDPE (no PTFE)	20 mL	00350019028789	Grey	No	
014	0874_SW010_201231	HDPE (no PTFE)	20 mL	00350019028943	Grey	No	
014	0874_SW010_201231	HDPE (no PTFE)	20 mL	00350019028778	Grey	No	
014	0874_SW010_201231	HDPE (no PTFE)	20 mL	00350019028724	Grey	No	
015	0874_SW132_201231	HDPE (no PTFE)	20 mL	00350019028917	Grey	No	
015	0874_SW132_201231	HDPE (no PTFE)	20 mL	00350019028864	Grey	No	
016	0874_SW117_201231	HDPE (no PTFE)	20 mL	00350019028861	Grey	No	
016	0874_SW117_201231	HDPE (no PTFE)	20 mL	00350019028770	Grey	No	
017	0874_SW118_201231	HDPE (no PTFE)	20 mL	00350019028831	Grey	No	
017	0874_SW118_201231	HDPE (no PTFE)	20 mL	00350019028688	Grey	No	
017	0874_SW118_201231	HDPE (no PTFE)	20 mL	00350019028702	Grey	No	
017	0874_SW118_201231	HDPE (no PTFE)	20 mL	00350019028745	Grey	No	
018	0874_SW115_201231	HDPE (no PTFE)	20 mL	00350019028855	Grey	No	
018	0874_SW115_201231	HDPE (no PTFE)	20 mL	00350019028621	Grey	No	
019	0874_SW116_201231	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820064817	Purple	No	
019	0874_SW116_201231	Clear Plastic Bottle - Natural	500 mL	00070719080070	Green	No	
019	0874_SW116_201231	HDPE (no PTFE)	20 mL	00350019028782	Grey	No	

CHAIN OF CUSTODY
 (ALS) COC#: 17413 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/123/20 / ET2020AECOMAU0001

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

019	0874_SW116_201231	HDPE (no PTFE)	20 mL	00350019028803	Grey	No	
020	0874_QC304_201231	HDPE (no PTFE)	20 mL	00350019028657	Grey	No	
020	0874_QC304_201231	HDPE (no PTFE)	20 mL	00350019028743	Grey	No	
021	0874_SW109_201231	HDPE (no PTFE)	20 mL	00350019028647	Grey	No	
021	0874_SW109_201231	HDPE (no PTFE)	20 mL	00350019028908	Grey	No	
022	0874_SW108_201231	HDPE (no PTFE)	20 mL	00350019028922	Grey	No	
022	0874_SW108_201231	HDPE (no PTFE)	20 mL	00350019028887	Grey	No	

Total Bottle Count: ALS: 60, Non ALS: 0

AECO 06/20210105

Due 12/01/21

CHAIN OF CUSTODY DOCUMENTATION

CLIENT: AECOM Australia	SAMPLER: [REDACTED]	NMI
ADDRESS / OFFICE: AECOM Townsville, level 5,7-13 Tomlins St, South Townsville	MOBILE: [REDACTED]	
PROJECT MANAGER (PM): [REDACTED]	PHONE: [REDACTED]	
PROJECT ID: QLD_0874_PFA5OMP	EMAIL REPORT TO: [REDACTED]	

SITE: QLD_0874	P.O. NO.: 60612487_2.1	EMAIL INVOICE TO: [REDACTED]
RESULTS REQUIRED (Date): Standard TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:		WATER - PFAS Standard 28 analysis	DOC	TSS	Major ions (chloride, sulfate, bicarbonate, carbonate, calcium, magnesium, sodium and potassium)	HOLD	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
COOLER SEAL (circle appropriate)									
Intact: Yes No N/A									
SAMPLE TEMPERATURE:									

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		WATER - PFAS Standard 28 analysis	DOC	TSS	Major ions (chloride, sulfate, bicarbonate, carbonate, calcium, magnesium, sodium and potassium)	Barcode	Barcode	Barcode
LNS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles							
	0874_QC200_201227	W	27/12/20		2P	2	x				N21/000079		
	0874_QC201_201227	W	27/12/20		2P	2	x				N21/000080		
	0874_QC202_201228	W	28/12/20		2P	2	x				N21/000081		
	0874_QC203_201227	W	27/12/20		1P, 1SG	2		x	x	x		N21/000082	
	0874_QC204_201228	W	28/12/20		3P, 1SG	4	x	x	x	x		N21/000083	
	0874_QC205_201229	W	29/12/20		3P, 1SG	4	x	x	x	x		N21/000084	
	0874_QC206_201229	W	29/12/20		2P	2	x				N21/000085		
	0874_QC207_201230	W	30/12/20		3P, 1SG	4	x	x	x	x		N21/000086	
	0874_QC208_201230	W	30/12/20		2P	2	x				N21/000087		
	0874_QC209_201231	W	31/12/20		3P, 1SG	4	x	x	x	x		N21/000088	
	0874_QC210_201231	W	31/12/20		2P	2	x					N21/000089	

RECEIVED
05 JAN 2021

BY: [REDACTED]

SHIPPED BY:		RECEIVED BY:		METHOD OF SHIPMENT	
Name: [REDACTED]	Date: 04/01/2021	Name: [REDACTED]	Date:	Con' Note No:	
Of: AECOM	Time: 0900 / 1100	Of:	Time:	Transport Co:	
Name:	Date:	Name:	Date:		
Of:	Time:	Of:	Time:		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved,
 V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass,
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle. ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

Appendix E

Laboratory Analytical Reports

CERTIFICATE OF ANALYSIS

Work Order : **EB2034364**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address :
 BRISBANE
Telephone : ----
Project : **QLD_0874_PFASOMP**
Order number : **60612487**
C-O-C number : **17392**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/123/20**
No. of samples received : **47**
No. of samples analysed : **47**

Page : 1 of 32
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 30-Dec-2020 08:55
Date Analysis Commenced : 30-Dec-2020
Issue Date : 07-Jan-2021 17:52



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- Ionic Balance out of acceptable limits due to analytes not quantified in this report.
- EP231X PFAS: The LOR of particular analytes have been raised due to sample matrix interferences.
- EP231X PFAS: The LOR of PFBA for sample "0874_SW125_201228" has been raised further due to sample matrix interferences.
- EP231X PFAS: Samples "0874_SW125_201228" and "0874_SW123_201228" required dilution due to sample matrix. LOR values have been adjusted accordingly.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SURFACE WATER
 (Matrix: WATER)

Sample ID

0874_SW117_201227

				Sampling date / time	27-Dec-2020 18:38	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034364-017	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	----	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	----	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.10	----	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	----	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.69	----	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	----	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.12	----	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.42	----	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	----	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.09	----	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----	----



Analytical Results

Sub-Matrix: SURFACE WATER
 (Matrix: WATER)

Sample ID

0874_SW117_201227

				Sampling date / time				
				27-Dec-2020 18:38	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034364-017	-----	-----	-----	-----
				Result	----	----	----	----

EP231C: Perfluoroalkyl Sulfonamides - Continued

N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----

EP231D: (n:2) Fluorotelomer Sulfonic Acids

4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----

EP231P: PFAS Sums

Sum of PFAS	----	0.01	µg/L	3.93	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.79	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.69	----	----	----	----

EP231S: PFAS Surrogate

13C4-PFOS	----	0.02	%	94.4	----	----	----	----
13C8-PFOA	----	0.02	%	98.1	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_201227	0874_QC100_201227	0874_QC500_201227	0874_SW112_201227	0874_SW014_201227
Sampling date / time				27-Dec-2020 13:58	27-Dec-2020 13:59	27-Dec-2020 14:02	27-Dec-2020 14:32	27-Dec-2020 14:57	
Compound	CAS Number	LOR	Unit	EB2034364-001	EB2034364-002	EB2034364-003	EB2034364-004	EB2034364-005	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.72	----	----	----	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	4880	----	----	----	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	6	----	----	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	102	----	----	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	102	----	----	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	351	----	----	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	2840	----	----	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	85	----	----	----	----	
Magnesium	7439-95-4	1	mg/L	176	----	----	----	----	
Sodium	7440-23-5	1	mg/L	1460	----	----	----	----	
Potassium	7440-09-7	1	mg/L	54	----	----	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	0.4	----	----	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	89.4	----	----	----	----	
∅ Total Cations	----	0.01	meq/L	83.6	----	----	----	----	
∅ Ionic Balance	----	0.01	%	3.38	----	----	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	13	----	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.02	0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_201227	0874_QC100_201227	0874_QC500_201227	0874_SW112_201227	0874_SW014_201227
Sampling date / time					27-Dec-2020 13:58	27-Dec-2020 13:59	27-Dec-2020 14:02	27-Dec-2020 14:32	27-Dec-2020 14:57
Compound	CAS Number	LOR	Unit	EB2034364-001	EB2034364-002	EB2034364-003	EB2034364-004	EB2034364-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.01	<0.01	0.02	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_201227	0874_QC100_201227	0874_QC500_201227	0874_SW112_201227	0874_SW014_201227
Sampling date / time					27-Dec-2020 13:58	27-Dec-2020 13:59	27-Dec-2020 14:02	27-Dec-2020 14:32	27-Dec-2020 14:57
Compound	CAS Number	LOR	Unit	EB2034364-001	EB2034364-002	EB2034364-003	EB2034364-004	EB2034364-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.01	<0.01	0.04	0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.01	<0.01	0.04	0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.01	<0.01	0.04	0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	72.1	84.6	95.8	94.1	87.0	
13C8-PFOA	----	0.02	%	89.9	91.8	96.7	96.8	94.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW017_201227	0874_SW127_201227	0874_SW123_201227	0874_QC101_201227	0874_SW125_201227			
Sampling date / time		27-Dec-2020 15:10		27-Dec-2020 15:27		27-Dec-2020 16:03		27-Dec-2020 16:04		27-Dec-2020 16:33	
Compound	CAS Number	LOR	Unit	EB2034364-006	EB2034364-007	EB2034364-008	EB2034364-009	EB2034364-010			
				Result	Result	Result	Result	Result			
EA005P: pH by PC Titrator											
pH Value	----	0.01	pH Unit	----	7.04	----	----	----			
EA015: Total Dissolved Solids dried at 180 ± 5 °C											
Total Dissolved Solids @180°C	----	10	mg/L	----	78	----	----	----			
EA025: Total Suspended Solids dried at 104 ± 2°C											
Suspended Solids (SS)	----	5	mg/L	----	13	----	----	----			
ED037P: Alkalinity by PC Titrator											
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	----	----	----			
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	----	----	----			
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	16	----	----	----			
Total Alkalinity as CaCO3	----	1	mg/L	----	16	----	----	----			
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA											
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	3	----	----	----			
ED045G: Chloride by Discrete Analyser											
Chloride	16887-00-6	1	mg/L	----	16	----	----	----			
ED093F: Dissolved Major Cations											
Calcium	7440-70-2	1	mg/L	----	5	----	----	----			
Magnesium	7439-95-4	1	mg/L	----	2	----	----	----			
Sodium	7440-23-5	1	mg/L	----	13	----	----	----			
Potassium	7440-09-7	1	mg/L	----	2	----	----	----			
EK040P: Fluoride by PC Titrator											
Fluoride	16984-48-8	0.1	mg/L	----	0.2	----	----	----			
EN055: Ionic Balance											
∅ Total Anions	----	0.01	meq/L	----	0.83	----	----	----			
∅ Total Cations	----	0.01	meq/L	----	1.03	----	----	----			
EP002: Dissolved Organic Carbon (DOC)											
Dissolved Organic Carbon	----	1	mg/L	----	8	----	----	----			
EP231A: Perfluoroalkyl Sulfonic Acids											
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.18	0.16	1.06			
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.17	0.18	0.59			
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	1.29	1.26	2.36			



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_201227	0874_SW127_201227	0874_SW123_201227	0874_QC101_201227	0874_SW125_201227
Sampling date / time					27-Dec-2020 15:10	27-Dec-2020 15:27	27-Dec-2020 16:03	27-Dec-2020 16:04	27-Dec-2020 16:33
Compound	CAS Number	LOR	Unit	EB2034364-006	EB2034364-007	EB2034364-008	EB2034364-009	EB2034364-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.11	0.11	0.08	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	3.76	3.60	1.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.08	0.08	0.52	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.41	0.39	2.25	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.04	0.04	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.07	0.07	0.06	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_201227	0874_SW127_201227	0874_SW123_201227	0874_QC101_201227	0874_SW125_201227
Sampling date / time					27-Dec-2020 15:10	27-Dec-2020 15:27	27-Dec-2020 16:03	27-Dec-2020 16:04	27-Dec-2020 16:33
Compound	CAS Number	LOR	Unit	EB2034364-006	EB2034364-007	EB2034364-008	EB2034364-009	EB2034364-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.02	6.11	5.89	8.04	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	5.05	4.86	3.40	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	5.83	5.60	7.37	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	103	78.0	79.5	79.9	
13C8-PFOA	----	0.02	%	104	95.1	94.5	93.5	95.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_201227	0874_SW131_201227	0874_SW102_201227	0874_SW010_201227	0874_SW132_201227
Sampling date / time				27-Dec-2020 16:50	27-Dec-2020 17:02	27-Dec-2020 17:20	27-Dec-2020 17:45	27-Dec-2020 18:04	
Compound	CAS Number	LOR	Unit	EB2034364-011	EB2034364-012	EB2034364-013	EB2034364-014	EB2034364-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.29	0.02	0.05	0.33	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	0.24	0.02	0.03	0.33	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.04	1.64	0.24	0.21	2.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	0.08	<0.02	<0.02	0.13	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.84	2.40	0.58	0.81	3.75	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.2	<0.1	0.2	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.06	0.13	<0.02	0.09	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.24	0.64	0.03	0.17	0.69	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.05	<0.02	0.05	0.12	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.06	<0.01	0.04	0.15	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_201227	0874_SW131_201227	0874_SW102_201227	0874_SW010_201227	0874_SW132_201227
Sampling date / time					27-Dec-2020 16:50	27-Dec-2020 17:02	27-Dec-2020 17:20	27-Dec-2020 17:45	27-Dec-2020 18:04
Compound	CAS Number	LOR	Unit	EB2034364-011	EB2034364-012	EB2034364-013	EB2034364-014	EB2034364-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.46	5.53	0.89	1.65	7.66	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.88	4.04	0.82	1.02	5.76	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.28	5.21	0.87	1.62	7.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	84.0	88.7	90.5	93.7	97.5	
13C8-PFOA	----	0.02	%	95.0	92.7	98.3	97.1	95.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_201227	0874_SW118_201227	0874_SW115_201227	0874_SW116_201227	0874_SW109_201227
Sampling date / time					27-Dec-2020 18:22	27-Dec-2020 18:51	27-Dec-2020 19:03	27-Dec-2020 19:14	27-Dec-2020 19:30
Compound	CAS Number	LOR	Unit	EB2034364-016	EB2034364-018	EB2034364-019	EB2034364-020	EB2034364-021	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.14	----	----	6.95	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	130	----	----	639	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	<5	----	----	20	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	32	----	----	16	----	
Total Alkalinity as CaCO3	----	1	mg/L	32	----	----	16	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	5	----	----	66	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	15	----	----	329	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	11	----	----	17	----	
Magnesium	7439-95-4	1	mg/L	3	----	----	21	----	
Sodium	7440-23-5	1	mg/L	12	----	----	170	----	
Potassium	7440-09-7	1	mg/L	3	----	----	8	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	<0.1	----	----	0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	1.17	----	----	11.0	----	
∅ Total Cations	----	0.01	meq/L	1.39	----	----	10.2	----	
∅ Ionic Balance	----	0.01	%	----	----	----	3.78	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	20	----	----	8	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.09	0.17	0.16	0.08	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.14	0.14	0.06	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.30	0.78	0.88	0.40	0.29	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_201227	0874_SW118_201227	0874_SW115_201227	0874_SW116_201227	0874_SW109_201227
Sampling date / time					27-Dec-2020 18:22	27-Dec-2020 18:51	27-Dec-2020 19:03	27-Dec-2020 19:14	27-Dec-2020 19:30
Compound	CAS Number	LOR	Unit	EB2034364-016	EB2034364-018	EB2034364-019	EB2034364-020	EB2034364-021	EB2034364-021
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.06	0.02		<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.40	1.45	1.89	0.66		0.52
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1		<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.09	0.06	0.04		<0.04
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.34	0.25	0.13		0.08
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.06	0.03	<0.02		<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.06	0.04	0.02		0.02
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05		<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05		<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05		<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05		<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05		<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02		<0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_201227	0874_SW118_201227	0874_SW115_201227	0874_SW116_201227	0874_SW109_201227
Sampling date / time					27-Dec-2020 18:22	27-Dec-2020 18:51	27-Dec-2020 19:03	27-Dec-2020 19:14	27-Dec-2020 19:30
Compound	CAS Number	LOR	Unit	EB2034364-016	EB2034364-018	EB2034364-019	EB2034364-020	EB2034364-021	EB2034364-021
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.95	3.13	3.51	1.41	1.01	1.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.70	2.23	2.77	1.06	0.81	0.81
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.90	2.95	3.31	1.33	0.97	0.97
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.4	101	100	96.6	110	110
13C8-PFOA	----	0.02	%	97.8	96.4	95.3	91.8	96.1	96.1



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_201227	0874_QC300_201227	0874_SW129_201228	0874_SW112_201228	0874_QC102_201228
Sampling date / time				27-Dec-2020 19:38	27-Dec-2020 19:43	28-Dec-2020 09:56	28-Dec-2020 10:58	28-Dec-2020 10:59	
Compound	CAS Number	LOR	Unit	EB2034364-022	EB2034364-023	EB2034364-024	EB2034364-025	EB2034364-026	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	----	----	7.70	----	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	----	4800	----	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	6	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	102	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	102	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	352	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	2840	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	86	----	----	
Magnesium	7439-95-4	1	mg/L	----	----	180	----	----	
Sodium	7440-23-5	1	mg/L	----	----	1470	----	----	
Potassium	7440-09-7	1	mg/L	----	----	55	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	0.4	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	89.5	----	----	
∅ Total Cations	----	0.01	meq/L	----	----	84.4	----	----	
∅ Ionic Balance	----	0.01	%	----	----	2.89	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	13	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.08	<0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.03	<0.02	<0.02	0.04	0.03	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_201227	0874_QC300_201227	0874_SW129_201228	0874_SW112_201228	0874_QC102_201228
Sampling date / time					27-Dec-2020 19:38	27-Dec-2020 19:43	28-Dec-2020 09:56	28-Dec-2020 10:58	28-Dec-2020 10:59
Compound	CAS Number	LOR	Unit	EB2034364-022	EB2034364-023	EB2034364-024	EB2034364-025	EB2034364-026	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.11	<0.01	<0.01	0.08	0.06	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	<0.01	<0.01	0.08	0.06	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.11	<0.01	<0.01	0.08	0.06	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	116	91.7	98.6	91.3	
13C8-PFOA	----	0.02	%	99.1	99.5	97.3	99.1	98.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW014_201228	0874_SW017_201228	0874_SW127_201228	0874_SW121_201228	0874_SW016_201228
Sampling date / time			28-Dec-2020 11:22	28-Dec-2020 11:38	28-Dec-2020 12:01	28-Dec-2020 12:47	28-Dec-2020 13:14	
Compound	CAS Number	LOR	Unit	EB2034364-027	EB2034364-028	EB2034364-029	EB2034364-030	EB2034364-031
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	----	----	7.08	7.15	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	----	----	92	118	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	----	----	14	<5	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	17	29	----
Total Alkalinity as CaCO3	----	1	mg/L	----	----	17	29	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	3	6	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	----	----	16	16	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	----	5	12	----
Magnesium	7439-95-4	1	mg/L	----	----	2	3	----
Sodium	7440-23-5	1	mg/L	----	----	12	12	----
Potassium	7440-09-7	1	mg/L	----	----	2	3	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	----	----	<0.1	<0.1	----
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	----	----	0.85	1.16	----
∅ Total Cations	----	0.01	meq/L	----	----	0.99	1.44	----
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	----	----	8	21	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.08
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.02	0.05
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.21	0.32



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_201228	0874_SW017_201228	0874_SW127_201228	0874_SW121_201228	0874_SW016_201228
Sampling date / time				28-Dec-2020 11:22	28-Dec-2020 11:38	28-Dec-2020 12:01	28-Dec-2020 12:47	28-Dec-2020 13:14	
Compound	CAS Number	LOR	Unit	EB2034364-027	EB2034364-028	EB2034364-029	EB2034364-030	EB2034364-031	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.01	<0.01	0.73	1.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.01	<0.01	0.62	0.85	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.01	<0.01	0.71	1.04	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	104	95.8	104	103	
13C8-PFOA	----	0.02	%	98.5	98.8	99.2	98.1	98.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_201228	0874_SW102_201228	0874_SW125_201228	0874_SW123_201228	0874_SW010_201228
Sampling date / time				28-Dec-2020 13:26	28-Dec-2020 13:43	28-Dec-2020 14:09	28-Dec-2020 14:26	28-Dec-2020 15:00	
Compound	CAS Number	LOR	Unit	EB2034364-032	EB2034364-033	EB2034364-034	EB2034364-035	EB2034364-036	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.31	0.02	16.4	0.21	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.25	0.03	15.3	0.24	0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.78	0.29	64.7	2.01	0.19	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	<0.02	1.95	0.23	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.76	0.48	47.5	18.1	0.76	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.25	0.59	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<2.5	<0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.15	0.03	3.80	0.11	0.08	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.55	0.03	31.9	0.51	0.10	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	<0.02	1.90	0.06	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	<0.01	1.39	0.12	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.63	<0.13	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.25	0.20	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.63	<0.13	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.63	<0.13	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_201228	0874_SW102_201228	0874_SW125_201228	0874_SW123_201228	0874_SW010_201228
Sampling date / time					28-Dec-2020 13:26	28-Dec-2020 13:43	28-Dec-2020 14:09	28-Dec-2020 14:26	28-Dec-2020 15:00
Compound	CAS Number	LOR	Unit	EB2034364-032	EB2034364-033	EB2034364-034	EB2034364-035	EB2034364-036	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.63	<0.13	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.63	<0.13	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.25	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.25	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.25	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.25	0.06	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.25	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	5.99	0.88	185	22.4	1.26	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.54	0.77	112	20.1	0.95	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.66	0.85	168	21.2	1.24	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.3	85.7	101	94.7	88.3	
13C8-PFOA	----	0.02	%	100	98.5	102	101	96.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW132_201228	0874_SW117_201228	0874_SW118_201228	0874_SW115_201228	0874_QC103_201227
Sampling date / time			28-Dec-2020 15:13	28-Dec-2020 15:28	28-Dec-2020 15:41	28-Dec-2020 15:50	27-Dec-2020 19:15	
Compound	CAS Number	LOR	Unit	EB2034364-037	EB2034364-038	EB2034364-039	EB2034364-040	EB2034364-041
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	----	----	----	----	6.89
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	----	635
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	----	----	----	----	23
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	----	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	----	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	----	16
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	----	16
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	----	67
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	----	----	----	----	325
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	----	----	----	18
Magnesium	7439-95-4	1	mg/L	----	----	----	----	21
Sodium	7440-23-5	1	mg/L	----	----	----	----	168
Potassium	7440-09-7	1	mg/L	----	----	----	----	8
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	----	----	----	----	<0.1
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	----	----	----	----	10.9
∅ Total Cations	----	0.01	meq/L	----	----	----	----	10.1
∅ Ionic Balance	----	0.01	%	----	----	----	----	3.54
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	----	----	----	----	8
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.14	0.14	0.12	0.11	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	0.12	0.09	0.09	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.73	0.75	0.51	0.63	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_201228	0874_SW117_201228	0874_SW118_201228	0874_SW115_201228	0874_QC103_201227
Sampling date / time					28-Dec-2020 15:13	28-Dec-2020 15:28	28-Dec-2020 15:41	28-Dec-2020 15:50	27-Dec-2020 19:15
Compound	CAS Number	LOR	Unit		EB2034364-037	EB2034364-038	EB2034364-039	EB2034364-040	EB2034364-041
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.05	0.03	0.04	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.54	1.46	0.87	1.20	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<0.1	<0.1	<0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.13	0.12	0.09	0.04	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.30	0.30	0.22	0.15	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.06	0.04	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	0.08	0.05	0.03	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_201228	0874_SW117_201228	0874_SW118_201228	0874_SW115_201228	0874_QC103_201227
Sampling date / time					28-Dec-2020 15:13	28-Dec-2020 15:28	28-Dec-2020 15:41	28-Dec-2020 15:50	27-Dec-2020 19:15
Compound	CAS Number	LOR	Unit	EB2034364-037	EB2034364-038	EB2034364-039	EB2034364-040	EB2034364-041	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.15	3.08	2.02	2.29	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.27	2.21	1.38	1.83	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.99	2.91	1.90	2.16	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.4	90.7	85.7	105	----	----
13C8-PFOA	----	0.02	%	98.8	98.3	99.4	102	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_201228	0874_QC104_201228	0874_SW109_201228	0874_SW108_201228	0874_QC501_201228
Sampling date / time				28-Dec-2020 16:40	28-Dec-2020 16:42	28-Dec-2020 16:56	28-Dec-2020 17:07	28-Dec-2020 17:37	
Compound	CAS Number	LOR	Unit	EB2034364-042	EB2034364-043	EB2034364-044	EB2034364-045	EB2034364-046	EB2034364-046
				Result	Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	7.04	7.00	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	627	629	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	16	15	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	15	15	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	15	15	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	66	67	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	323	326	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	17	18	----	----	----	----
Magnesium	7439-95-4	1	mg/L	20	21	----	----	----	----
Sodium	7440-23-5	1	mg/L	168	171	----	----	----	----
Potassium	7440-09-7	1	mg/L	8	8	----	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	----	----	----	----
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	10.8	10.9	----	----	----	----
∅ Total Cations	----	0.01	meq/L	10.0	10.3	----	----	----	----
∅ Ionic Balance	----	0.01	%	3.74	2.94	----	----	----	----
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	9	9	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	0.06	0.06	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.05	0.04	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.30	0.30	0.26	0.02	<0.02	<0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_201228	0874_QC104_201228	0874_SW109_201228	0874_SW108_201228	0874_QC501_201228
Sampling date / time				28-Dec-2020 16:40	28-Dec-2020 16:42	28-Dec-2020 16:56	28-Dec-2020 17:07	28-Dec-2020 17:37	
Compound	CAS Number	LOR	Unit	EB2034364-042	EB2034364-043	EB2034364-044	EB2034364-045	EB2034364-046	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.15	1.20	1.05	0.08	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.92	0.99	0.85	0.08	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.10	1.15	1.01	0.08	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	118	114	99.1	113	
13C8-PFOA	----	0.02	%	96.3	96.1	96.3	98.4	97.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_QC301_201228	----	----	----	----
		Sampling date / time		28-Dec-2020 18:36	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034364-047	-----	-----	-----	-----
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID	0874_QC301_201228		----	----	----	----
		Sampling date / time	28-Dec-2020 18:36		----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034364-047	-----	-----	-----	-----
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	112	----	----	----	----
13C8-PFOA	----	0.02	%	97.9	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order : EB2034364 Client : AECOM Australia Pty Ltd Contact : [REDACTED] Address : BRISBANE Telephone : ---- Project : QLD_0874_PFASOMP Order number : 60612487 C-O-C number : 17392 Sampler : [REDACTED] Site : QLD_0874 Quote number : TV/123/20 No. of samples received : 47 No. of samples analysed : 47	Page : 1 of 16 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 30-Dec-2020 Date Analysis Commenced : 30-Dec-2020 Issue Date : 07-Jan-2021
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA005P: pH by PC Titrator (QC Lot: 3443953)									
EB2034364-029	0874_SW127_201228	EA005-P: pH Value	----	0.01	pH Unit	7.08	7.01	0.994	0% - 20%
EB2033577-002	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	7.65	7.68	0.391	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 3445808)									
EB2034359-002	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	4510	4560	0.948	0% - 20%
EB2034364-030	0874_SW121_201228	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	118	120	1.40	0% - 50%
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3445807)									
EB2032949-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	31	32	0.00	No Limit
EB2034364-030	0874_SW121_201228	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	6	18.2	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3443950)									
EB2034364-029	0874_SW127_201228	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	17	17	0.00	0% - 50%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	17	17	0.00	0% - 50%
EB2033577-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	100	109	8.63	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	100	109	8.63	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3444015)									
EB2034364-001	0874_SW129_201227	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	351	351	0.00	0% - 20%
EB2034367-007	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	100	102	1.63	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3444014)									
EB2034364-001	0874_SW129_201227	ED045G: Chloride	16887-00-6	1	mg/L	2840	2840	0.00	0% - 20%
EB2034367-007	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	90	91	1.66	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 3446812)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3446812) - continued									
EB2033833-003	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	23	24	4.92	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	8	8	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	90	89	0.00	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	15	14	0.00	0% - 50%
EB2034359-011	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	<1	<1	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	<1	<1	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	11700	11800	1.12	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	218	222	1.74	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 3446813)									
EB2034364-043	0874_QC104_201228	ED093F: Calcium	7440-70-2	1	mg/L	18	18	0.00	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	21	20	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	171	167	2.13	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	8	8	0.00	No Limit
EB2034405-025	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	7	6	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	3	3	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	27	26	0.00	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.00	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 3443951)									
EB2034364-029	0874_SW127_201228	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit
EB2033577-002	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3444383)									
EB2034318-001	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	15	16	8.39	No Limit
EB2034364-041	0874_QC103_201227	EP002: Dissolved Organic Carbon	----	1	mg/L	8	8	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446980)									
EB2034364-007	0874_SW127_201227	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2034364-014	0874_SW010_201227	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.81	0.75	7.57	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.21	0.21	0.00	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446981)									
EB2034364-028	0874_SW017_201228	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446981) - continued									
EB2034364-028	0874_SW017_201228	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2034364-032	0874_SW131_201228	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.76	2.51	9.47	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.31	0.31	0.00	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.25	0.23	7.63	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.78	1.68	5.89	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.08	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446983)									
EB2034405-002	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.74	0.64	13.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.07	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.28	0.29	5.01	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446980)									
EB2034364-007	0874_SW127_201227	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EB2034364-014	0874_SW010_201227	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	0.09	0.10	11.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.17	0.15	12.8	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.05	0.04	0.00	No Limit
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	0.2	0.2	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446981)									
EB2034364-028	0874_SW017_201228	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2034364-032	0874_SW131_201228	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	0.06	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.15	0.15	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.55	0.55	0.00	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446983)									
EB2034405-002	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.11	0.11	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446980)									
EB2034364-007	0874_SW127_201227	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446980) - continued									
EB2034364-007	0874_SW127_201227	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2034364-014	0874_SW010_201227	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446981)									
EB2034364-028	0874_SW017_201228	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2034364-032	0874_SW131_201228	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446981) - continued									
EB2034364-032	0874_SW131_201228	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446983)									
EB2034405-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446980)									
EB2034364-007	0874_SW127_201227	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2034364-014	0874_SW010_201227	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446981)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446981) - continued									
EB2034364-028	0874_SW017_201228	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2034364-032	0874_SW131_201228	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446983)									
EB2034405-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	<0.05	23.7	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3446980)									
EB2034364-007	0874_SW127_201227	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.00	No Limit
EB2034364-014	0874_SW010_201227	EP231X: Sum of PFAS	----	0.01	µg/L	1.65	1.57	4.97	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.02	0.96	6.06	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.62	1.54	5.06	0% - 20%
EP231P: PFAS Sums (QC Lot: 3446981)									
EB2034364-028	0874_SW017_201228	EP231X: Sum of PFAS	----	0.01	µg/L	0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	<0.01	0.00	No Limit
EB2034364-032	0874_SW131_201228	EP231X: Sum of PFAS	----	0.01	µg/L	5.99	5.62	6.37	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231P: PFAS Sums (QC Lot: 3446981) - continued									
EB2034364-032	0874_SW131_201228	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.54	4.19	8.02	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.66	5.31	6.38	0% - 20%
EP231P: PFAS Sums (QC Lot: 3446983)									
EB2034405-002	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	1.39	1.25	10.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.02	0.93	9.23	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.34	1.20	11.0	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA005P: pH by PC Titrator (QCLot: 3443953)									
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	101	98.0	102	
				----	7 pH Unit	101	98.0	102	
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 3445808)									
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2460 mg/L	97.4	88.0	112	
				<10	293 mg/L	99.9	88.0	112	
				<10	2000 mg/L	97.2	80.9	118	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3445807)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	103	88.0	112	
				<5	1000 mg/L	96.1	88.0	112	
				<5	951 mg/L	102	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3443950)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	94.8	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3444015)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	102	85.0	118	
				<1	100 mg/L	96.1	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3444014)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	97.6	90.0	115	
				<1	1000 mg/L	106	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3446812)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	99.3	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	101	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	100	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	99.0	70.0	130	
ED093F: Dissolved Major Cations (QCLot: 3446813)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	95.1	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	97.8	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	97.7	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	94.8	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3443951)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	106	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3444383)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	89.5	80.0	112	
				<1	100 mg/L	99.6	80.0	112	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446980)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	99.0	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	102	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	99.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	95.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.6	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446981)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	111	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	117	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	108	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	129	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	110	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446983)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	123	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	120	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	132	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	123	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446980)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	85.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	94.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	82.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.2	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.6	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446981)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.6	71.0	133	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446981) - continued									
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	107	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446983)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.6	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	114	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446980)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	96.2	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	94.1	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.4	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	96.8	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	98.0	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446981)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	136	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	103	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	114	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446981) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	111	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446983)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	141	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	135	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	118	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	115	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	116	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446980)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	100	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	127	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	80.5	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446981)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	114	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	109	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	119	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	112	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446983)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	114	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	129	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	128	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	111	64.2	133	
EP231P: PFAS Sums (QCLot: 3446980)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3446981)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3446981) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3446983)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%) Low High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3444015)							
EB2034364-007	0874_SW127_201227	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	104	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3444014)							
EB2034364-007	0874_SW127_201227	ED045G: Chloride	16887-00-6	400 mg/L	107	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3443951)							
EB2034364-001	0874_SW129_201227	EK040P: Fluoride	16984-48-8	5 mg/L	93.4	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3444383)							
EB2034318-003	Anonymous	EP002: Dissolved Organic Carbon	----	100 mg/L	96.1	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446980)							
EB2034364-014	0874_SW010_201227	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	99.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	104	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	106	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	99.6	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	97.3	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446981)							
EB2034364-032	0874_SW131_201228	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	122	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	79.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Recovery Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446981) - continued									
EB2034364-032	0874_SW131_201228	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	109	69.0	134		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	112	53.0	142		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446980)									
EB2034364-014	0874_SW010_201227	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	103	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.9	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	88.9	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	95.3	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	90.4	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	89.2	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	88.4	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	99.8	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	82.6	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446981)									
EB2034364-032	0874_SW131_201228	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	108	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	91.1	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	74.7	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	101	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	100	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	113	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	112	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.0	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	108	71.0	132		
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446980)							
		EB2034364-014	0874_SW010_201227	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	97.0	59.0	135
				EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	88.3	70.0	130
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2			0.625 µg/L	75.2	70.0	130		
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7			0.625 µg/L	80.9	70.0	130		
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2			0.625 µg/L	87.8	70.0	130		
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9			0.25 µg/L	88.4	65.0	136		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446980) - continued							
EB2034364-014	0874_SW010_201227	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	95.0	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446981)							
EB2034364-032	0874_SW131_201228	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	106	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	111	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	104	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	110	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	119	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	127	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446980)							
EB2034364-014	0874_SW010_201227	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	107	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	99.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	95.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	71.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446981)							
EB2034364-032	0874_SW131_201228	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	104	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	116	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	112	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	128	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2034364	Page	: 1 of 13
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 30-Dec-2020
Site	: QLD_0874	Issue Date	: 07-Jan-2021
Sampler	: [REDACTED]	No. of samples received	: 47
Order number	: 60612487	No. of samples analysed	: 47

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2034364--032	0874_SW131_201228	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2034364--014	0874_SW010_201227	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2034364--032	0874_SW131_201228	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue	
EA005P: pH by PC Titrator								
Clear Plastic Bottle - Natural	0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	----	----	----	30-Dec-2020	28-Dec-2020	2
Clear Plastic Bottle - Natural	0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	----	----	----	30-Dec-2020	28-Dec-2020	2
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Clear Plastic Bottle - Natural	0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	----	----	----	04-Jan-2021	03-Jan-2021	1
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural	0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	----	----	----	04-Jan-2021	03-Jan-2021	1
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural	0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	----	----	----	06-Jan-2021	03-Jan-2021	3



Matrix: **WATER**

Method Container / Client Sample ID(s)	Extraction / Preparation			Analysis			
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue	
ED093F: Dissolved Major Cations - Analysis Holding Time Compliance							
Clear Plastic Bottle - Natural 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228	----	----	----	06-Jan-2021	04-Jan-2021	2

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	5	60	8.33	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	60	3.33	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA005P: pH by PC Titrator								
Clear Plastic Bottle - Natural (EA005-P) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227	27-Dec-2020	----	----	----	30-Dec-2020	28-Dec-2020	✖
Clear Plastic Bottle - Natural (EA005-P) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228	28-Dec-2020	----	----	----	30-Dec-2020	28-Dec-2020	✖



Matrix: **WATER** Evaluation: ✘ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Clear Plastic Bottle - Natural (EA015H) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	04-Jan-2021	03-Jan-2021	✘
Clear Plastic Bottle - Natural (EA015H) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	04-Jan-2021	04-Jan-2021	✔
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural (EA025H) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	04-Jan-2021	03-Jan-2021	✘
Clear Plastic Bottle - Natural (EA025H) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	04-Jan-2021	04-Jan-2021	✔
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	30-Dec-2020	10-Jan-2021	✔
Clear Plastic Bottle - Natural (ED037-P) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	30-Dec-2020	11-Jan-2021	✔
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	30-Dec-2020	24-Jan-2021	✔
Clear Plastic Bottle - Natural (ED041G) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	30-Dec-2020	25-Jan-2021	✔



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	30-Dec-2020	24-Jan-2021	✓
Clear Plastic Bottle - Natural (ED045G) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	30-Dec-2020	25-Jan-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	06-Jan-2021	03-Jan-2021	*✗
Clear Plastic Bottle - Natural (ED093F) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	06-Jan-2021	04-Jan-2021	*✗
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	30-Dec-2020	24-Jan-2021	✓
Clear Plastic Bottle - Natural (EK040P) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	30-Dec-2020	25-Jan-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW129_201227, 0874_SW121_201227, 0874_QC103_201227	0874_SW127_201227, 0874_SW116_201227,	27-Dec-2020	----	----	----	30-Dec-2020	24-Jan-2021	✓
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW129_201228, 0874_SW121_201228, 0874_QC104_201228	0874_SW127_201228, 0874_SW116_201228,	28-Dec-2020	----	----	----	30-Dec-2020	25-Jan-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW129_201227, 0874_QC500_201227, 0874_SW014_201227, 0874_SW127_201227, 0874_QC101_201227, 0874_SW016_201227, 0874_SW102_201227, 0874_SW132_201227, 0874_SW117_201227, 0874_SW115_201227, 0874_SW109_201227, 0874_QC300_201227	0874_QC100_201227, 0874_SW112_201227, 0874_SW017_201227, 0874_SW123_201227, 0874_SW125_201227, 0874_SW131_201227, 0874_SW010_201227, 0874_SW121_201227, 0874_SW118_201227, 0874_SW116_201227, 0874_SW108_201227,	27-Dec-2020	04-Jan-2021	25-Jun-2021	✓	05-Jan-2021	25-Jun-2021	✓
HDPE (no PTFE) (EP231X)								
0874_SW129_201228, 0874_QC102_201228, 0874_SW017_201228, 0874_SW121_201228, 0874_SW131_201228, 0874_SW125_201228, 0874_SW010_201228, 0874_SW117_201228, 0874_SW115_201228, 0874_QC104_201228, 0874_SW108_201228, 0874_QC301_201228	0874_SW112_201228, 0874_SW014_201228, 0874_SW127_201228, 0874_SW016_201228, 0874_SW102_201228, 0874_SW123_201228, 0874_SW132_201228, 0874_SW118_201228, 0874_SW116_201228, 0874_SW109_201228, 0874_QC501_201228,	28-Dec-2020	04-Jan-2021	26-Jun-2021	✓	05-Jan-2021	26-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW129_201227, 0874_QC500_201227, 0874_SW014_201227, 0874_SW127_201227, 0874_QC101_201227, 0874_SW016_201227, 0874_SW102_201227, 0874_SW132_201227, 0874_SW117_201227, 0874_SW115_201227, 0874_SW109_201227, 0874_QC300_201227	0874_QC100_201227, 0874_SW112_201227, 0874_SW017_201227, 0874_SW123_201227, 0874_SW125_201227, 0874_SW131_201227, 0874_SW010_201227, 0874_SW121_201227, 0874_SW118_201227, 0874_SW116_201227, 0874_SW108_201227,	27-Dec-2020	04-Jan-2021	25-Jun-2021	✓	05-Jan-2021	25-Jun-2021	✓
HDPE (no PTFE) (EP231X)								
0874_SW129_201228, 0874_QC102_201228, 0874_SW017_201228, 0874_SW121_201228, 0874_SW131_201228, 0874_SW125_201228, 0874_SW010_201228, 0874_SW117_201228, 0874_SW115_201228, 0874_QC104_201228, 0874_SW108_201228, 0874_QC301_201228	0874_SW112_201228, 0874_SW014_201228, 0874_SW127_201228, 0874_SW016_201228, 0874_SW102_201228, 0874_SW123_201228, 0874_SW132_201228, 0874_SW118_201228, 0874_SW116_201228, 0874_SW109_201228, 0874_QC501_201228,	28-Dec-2020	04-Jan-2021	26-Jun-2021	✓	05-Jan-2021	26-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW129_201227, 0874_QC500_201227, 0874_SW014_201227, 0874_SW127_201227, 0874_QC101_201227, 0874_SW016_201227, 0874_SW102_201227, 0874_SW132_201227, 0874_SW117_201227, 0874_SW115_201227, 0874_SW109_201227, 0874_QC300_201227	0874_QC100_201227, 0874_SW112_201227, 0874_SW017_201227, 0874_SW123_201227, 0874_SW125_201227, 0874_SW131_201227, 0874_SW010_201227, 0874_SW121_201227, 0874_SW118_201227, 0874_SW116_201227, 0874_SW108_201227,	27-Dec-2020	04-Jan-2021	25-Jun-2021	✓	05-Jan-2021	25-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201228, 0874_QC102_201228, 0874_SW017_201228, 0874_SW121_201228, 0874_SW131_201228, 0874_SW125_201228, 0874_SW010_201228, 0874_SW117_201228, 0874_SW115_201228, 0874_QC104_201228, 0874_SW108_201228, 0874_QC301_201228	0874_SW112_201228, 0874_SW014_201228, 0874_SW127_201228, 0874_SW016_201228, 0874_SW102_201228, 0874_SW123_201228, 0874_SW132_201228, 0874_SW118_201228, 0874_SW116_201228, 0874_SW109_201228, 0874_QC501_201228,	28-Dec-2020	04-Jan-2021	26-Jun-2021	✓	05-Jan-2021	26-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW129_201227, 0874_QC500_201227, 0874_SW014_201227, 0874_SW127_201227, 0874_QC101_201227, 0874_SW016_201227, 0874_SW102_201227, 0874_SW132_201227, 0874_SW117_201227, 0874_SW115_201227, 0874_SW109_201227, 0874_QC300_201227	0874_QC100_201227, 0874_SW112_201227, 0874_SW017_201227, 0874_SW123_201227, 0874_SW125_201227, 0874_SW131_201227, 0874_SW010_201227, 0874_SW121_201227, 0874_SW118_201227, 0874_SW116_201227, 0874_SW108_201227,	27-Dec-2020	04-Jan-2021	25-Jun-2021	✓	05-Jan-2021	25-Jun-2021	✓
HDPE (no PTFE) (EP231X)								
0874_SW129_201228, 0874_QC102_201228, 0874_SW017_201228, 0874_SW121_201228, 0874_SW131_201228, 0874_SW125_201228, 0874_SW010_201228, 0874_SW117_201228, 0874_SW115_201228, 0874_QC104_201228, 0874_SW108_201228, 0874_QC301_201228	0874_SW112_201228, 0874_SW014_201228, 0874_SW127_201228, 0874_SW016_201228, 0874_SW102_201228, 0874_SW123_201228, 0874_SW132_201228, 0874_SW118_201228, 0874_SW116_201228, 0874_SW109_201228, 0874_QC501_201228,	28-Dec-2020	04-Jan-2021	26-Jun-2021	✓	05-Jan-2021	26-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW129_201227, 0874_QC500_201227, 0874_SW014_201227, 0874_SW127_201227, 0874_QC101_201227, 0874_SW016_201227, 0874_SW102_201227, 0874_SW132_201227, 0874_SW117_201227, 0874_SW115_201227, 0874_SW109_201227, 0874_QC300_201227	0874_QC100_201227, 0874_SW112_201227, 0874_SW017_201227, 0874_SW123_201227, 0874_SW125_201227, 0874_SW131_201227, 0874_SW010_201227, 0874_SW121_201227, 0874_SW118_201227, 0874_SW116_201227, 0874_SW108_201227,	27-Dec-2020	04-Jan-2021	25-Jun-2021	✓	05-Jan-2021	25-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201228, 0874_QC102_201228, 0874_SW017_201228, 0874_SW121_201228, 0874_SW131_201228, 0874_SW125_201228, 0874_SW010_201228, 0874_SW117_201228, 0874_SW115_201228, 0874_QC104_201228, 0874_SW108_201228, 0874_QC301_201228	0874_SW112_201228, 0874_SW014_201228, 0874_SW127_201228, 0874_SW016_201228, 0874_SW102_201228, 0874_SW123_201228, 0874_SW132_201228, 0874_SW118_201228, 0874_SW116_201228, 0874_SW109_201228, 0874_QC501_201228,	28-Dec-2020	04-Jan-2021	26-Jun-2021	✓	05-Jan-2021	26-Jun-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	13	15.38	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	4	29	13.79	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	60	8.33	10.00	✘	NEPM 2013 B3 & ALS QC Standard
pH by PC Titrator	EA005-P	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	13	15.38	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	29	6.90	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	60	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
pH by PC Titrator	EA005-P	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	3	20	15.00	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	3	20	15.00	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	29	6.90	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	60	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	60	3.33	5.00	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH by PC Titrator	EA005-P	WATER	In house: Referenced to APHA 4500 H+ B. This procedure determines pH of water samples by automated ISE. This method is compliant with NEPM Schedule B(3)
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of 'filterable' residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2034364

Client : AECOM Australia Pty Ltd
Contact : [REDACTED]
Address : [REDACTED]
BRISBANE
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP
Order number : 60612487
C-O-C number : 17392
Site : QLD_0874
Sampler : [REDACTED]

Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 4
Quote number : ET2020AECOMAU0001 (TV/123/20)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 30-Dec-2020 08:55
Issue Date : 30-Dec-2020
Client Requested Due Date : 07-Jan-2021
Scheduled Reporting Date : 07-Jan-2021

Delivery Details

Mode of Delivery : Carrier
Security Seal : Intact.
No. of coolers/boxes : 7
Temperature : 0.7°C, 0.3°C, 1.4°C, 1.3°C, 2.1°C, 0.3°C, 1.3°C - Ice present
Receipt Detail : Hard Esky
No. of samples received / analysed : 47 / 47

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA005P pH (PCT)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EA025H Suspended Solids - Standard Level	WATER - EN055 - PG Ionic Balance by ED037P, ED041G, ED045G &	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2034364-001	27-Dec-2020 13:58	0874_SW129_201227	✓	✓	✓	✓	✓	✓	✓
EB2034364-002	27-Dec-2020 13:59	0874_QC100_201227					✓		
EB2034364-003	27-Dec-2020 14:02	0874_QC500_201227					✓		
EB2034364-004	27-Dec-2020 14:32	0874_SW112_201227					✓		
EB2034364-005	27-Dec-2020 14:57	0874_SW014_201227					✓		
EB2034364-006	27-Dec-2020 15:10	0874_SW017_201227					✓		
EB2034364-007	27-Dec-2020 15:27	0874_SW127_201227	✓	✓	✓	✓	✓	✓	✓
EB2034364-008	27-Dec-2020 16:03	0874_SW123_201227					✓		
EB2034364-009	27-Dec-2020 16:04	0874_QC101_201227					✓		
EB2034364-010	27-Dec-2020 16:33	0874_SW125_201227					✓		
EB2034364-011	27-Dec-2020 16:50	0874_SW016_201227					✓		
EB2034364-012	27-Dec-2020 17:02	0874_SW131_201227					✓		
EB2034364-013	27-Dec-2020 17:20	0874_SW102_201227					✓		
EB2034364-014	27-Dec-2020 17:45	0874_SW010_201227					✓		
EB2034364-015	27-Dec-2020 18:04	0874_SW132_201227					✓		
EB2034364-016	27-Dec-2020 18:22	0874_SW121_201227	✓	✓	✓	✓	✓	✓	✓
EB2034364-017	27-Dec-2020 18:38	0874_SW117_201227					✓		
EB2034364-018	27-Dec-2020 18:51	0874_SW118_201227					✓		
EB2034364-019	27-Dec-2020 19:03	0874_SW115_201227					✓		
EB2034364-020	27-Dec-2020 19:14	0874_SW116_201227	✓	✓	✓	✓	✓	✓	✓
EB2034364-021	27-Dec-2020 19:30	0874_SW109_201227					✓		
EB2034364-022	27-Dec-2020 19:38	0874_SW108_201227					✓		
EB2034364-023	27-Dec-2020 19:43	0874_QC300_201227					✓		
EB2034364-024	28-Dec-2020 09:56	0874_SW129_201228	✓	✓	✓	✓	✓	✓	✓
EB2034364-025	28-Dec-2020 10:58	0874_SW112_201228					✓		
EB2034364-026	28-Dec-2020 10:59	0874_QC102_201228					✓		
EB2034364-027	28-Dec-2020 11:22	0874_SW014_201228					✓		
EB2034364-028	28-Dec-2020 11:38	0874_SW017_201228					✓		
EB2034364-029	28-Dec-2020 12:01	0874_SW127_201228	✓	✓	✓	✓	✓	✓	✓
EB2034364-030	28-Dec-2020 12:47	0874_SW121_201228	✓	✓	✓	✓	✓	✓	✓
EB2034364-031	28-Dec-2020 13:14	0874_SW016_201228					✓		
EB2034364-032	28-Dec-2020 13:26	0874_SW131_201228					✓		
EB2034364-033	28-Dec-2020 13:43	0874_SW102_201228					✓		
EB2034364-034	28-Dec-2020 14:09	0874_SW125_201228					✓		
EB2034364-035	28-Dec-2020 14:26	0874_SW123_201228					✓		



			WATER - EA005P pH (PCT)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EA025H Suspended Solids - Standard Level	WATER - EN065 - PG Ionic Balance by ED037P, ED041G, ED045G &	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2034364-036	28-Dec-2020 15:00	0874_SW010_201228						✓	
EB2034364-037	28-Dec-2020 15:13	0874_SW132_201228						✓	
EB2034364-038	28-Dec-2020 15:28	0874_SW117_201228						✓	
EB2034364-039	28-Dec-2020 15:41	0874_SW118_201228						✓	
EB2034364-040	28-Dec-2020 15:50	0874_SW115_201228						✓	
EB2034364-041	27-Dec-2020 19:15	0874_QC103_201227	✓	✓	✓	✓	✓		✓
EB2034364-042	28-Dec-2020 16:40	0874_SW116_201228	✓	✓	✓	✓	✓	✓	✓
EB2034364-043	28-Dec-2020 16:42	0874_QC104_201228	✓	✓	✓	✓	✓	✓	✓
EB2034364-044	28-Dec-2020 16:56	0874_SW109_201228						✓	
EB2034364-045	28-Dec-2020 17:07	0874_SW108_201228						✓	
EB2034364-046	28-Dec-2020 17:37	0874_QC501_201228						✓	
EB2034364-047	28-Dec-2020 18:36	0874_QC301_201228						✓	

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

Evaluation: ✘ = Holding time breach ; ✔ = Within holding time.

Method	Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
					Date	Evaluation	Date	Evaluation
EA005-P: pH by PC Titrator								
0874_QC103_201227		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_QC104_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_SW116_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_SW116_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_SW121_201228		Clear Plastic Bottle - Natural	----	28-Dec-2020	30-Dec-2020	✘	----	----
0874_SW121_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_SW127_201228		Clear Plastic Bottle - Natural	----	28-Dec-2020	30-Dec-2020	✘	----	----
0874_SW127_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----
0874_SW129_201228		Clear Plastic Bottle - Natural	----	28-Dec-2020	30-Dec-2020	✘	----	----
0874_SW129_201228		Clear Plastic Bottle - Natural	----	29-Dec-2020	30-Dec-2020	✘	----	----



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2034405
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487
C-O-C number : 17398
Sampler :
Site : QLD_0874
Quote number : TV/123/20
No. of samples received : 46
No. of samples analysed : 46

Page : 1 of 29
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 31-Dec-2020 07:55
Date Analysis Commenced : 31-Dec-2020
Issue Date : 07-Jan-2021 17:26



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Inorganic Chemist and Senior Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFBA, PFPeA and PFOS have been raised in several samples due to matrix interference.
- TSS by EA-025 may bias low due to fine particulate matter passing through the prescribed filter.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EP231X PFAS: Sample "0874_SW125_201229" required dilution due to impacted analytes. LOR values have been adjusted accordingly.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFPeA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID		0874_SW127_201229	----	----	----	----
		Sampling date / time		29-Dec-2020 12:09	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034405-011	-----	-----	-----	-----
				Result	----	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	6.76	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	79	----	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	26	----	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	16	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	16	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	3	----	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	10	----	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	5	----	----	----	----
Magnesium	7439-95-4	1	mg/L	2	----	----	----	----
Sodium	7440-23-5	1	mg/L	8	----	----	----	----
Potassium	7440-09-7	1	mg/L	2	----	----	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	<0.1	----	----	----	----
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	0.66	----	----	----	----
∅ Total Cations	----	0.01	meq/L	0.81	----	----	----	----
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	7	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	----	----	----	----



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID	0874_SW127_201229	----	----	----	----
		Sampling date / time	29-Dec-2020 12:09	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034405-011	-----	-----	-----
				Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids - Continued							
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids							
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides							
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID	0874_SW127_201229	----	----	----	----
		Sampling date / time	29-Dec-2020 12:09	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2034405-011	-----	-----	-----
				Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued							
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----
EP231P: PFAS Sums							
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----
EP231S: PFAS Surrogate							
13C4-PFOS	----	0.02	%	93.6	----	----	----
13C8-PFOA	----	0.02	%	94.9	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201229	0874_SW118_201229	0874_SW115_201229	0874_SW116_201229	0874_SW109_201229
Sampling date / time					29-Dec-2020 08:00	29-Dec-2020 08:16	29-Dec-2020 08:26	29-Dec-2020 08:47	29-Dec-2020 09:00
Compound	CAS Number	LOR	Unit	EB2034405-001	EB2034405-002	EB2034405-003	EB2034405-004	EB2034405-005	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	----	----	----	6.71	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	364	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	31	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	16	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	16	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	38	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	153	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	12	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	11	----	
Sodium	7440-23-5	1	mg/L	----	----	----	80	----	
Potassium	7440-09-7	1	mg/L	----	----	----	5	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	5.43	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	5.11	----	
∅ Ionic Balance	----	0.01	%	----	----	----	2.99	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	8	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.14	0.06	0.06	0.04	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	0.05	0.06	0.03	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.68	0.28	0.38	0.22	0.22	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201229	0874_SW118_201229	0874_SW115_201229	0874_SW116_201229	0874_SW109_201229
Sampling date / time					29-Dec-2020 08:00	29-Dec-2020 08:16	29-Dec-2020 08:26	29-Dec-2020 08:47	29-Dec-2020 09:00
Compound	CAS Number	LOR	Unit	EB2034405-001	EB2034405-002	EB2034405-003	EB2034405-004	EB2034405-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	<0.02	0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.45	0.74	0.79	0.40	0.43	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.11	0.04	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.26	0.11	0.12	0.06	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.03	0.02	0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201229	0874_SW118_201229	0874_SW115_201229	0874_SW116_201229	0874_SW109_201229
Sampling date / time					29-Dec-2020 08:00	29-Dec-2020 08:16	29-Dec-2020 08:26	29-Dec-2020 08:47	29-Dec-2020 09:00
Compound	CAS Number	LOR	Unit	EB2034405-001	EB2034405-002	EB2034405-003	EB2034405-004	EB2034405-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.93	1.39	1.45	0.76	0.79	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.13	1.02	1.17	0.62	0.65	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.77	1.34	1.37	0.73	0.76	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	116	99.4	106	98.4	
13C8-PFOA	----	0.02	%	99.3	97.4	99.6	99.5	99.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_201229	0874_SW112_201229	0874_QC502_201229	0874_SW014_201229	0874_SW017_201229
Sampling date / time					29-Dec-2020 09:12	29-Dec-2020 11:09	29-Dec-2020 11:11	29-Dec-2020 11:30	29-Dec-2020 11:42
Compound	CAS Number	LOR	Unit	EB2034405-006	EB2034405-007	EB2034405-008	EB2034405-009	EB2034405-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.05	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.03	0.06	<0.02	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	0.06	<0.01	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_201229	0874_SW112_201229	0874_QC502_201229	0874_SW014_201229	0874_SW017_201229
Sampling date / time					29-Dec-2020 09:12	29-Dec-2020 11:09	29-Dec-2020 11:11	29-Dec-2020 11:30	29-Dec-2020 11:42
Compound	CAS Number	LOR	Unit		EB2034405-006	EB2034405-007	EB2034405-008	EB2034405-009	EB2034405-010
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.10	0.21	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.12	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.21	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	102	112	99.5	107	107
13C8-PFOA	----	0.02	%	98.8	99.8	99.6	102	98.5	98.5



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_QC105_201229	0874_SW121_201229	0874_SW123_201229	0874_SW125_201229	0874_SW131_201229
Sampling date / time			29-Dec-2020 12:10	29-Dec-2020 12:39	29-Dec-2020 13:13	29-Dec-2020 13:33	29-Dec-2020 14:06	
Compound	CAS Number	LOR	Unit	EB2034405-012	EB2034405-013	EB2034405-014	EB2034405-015	EB2034405-016
				Result	Result	Result	Result	Result
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	6.76	6.96	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	62	256	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	17	<5	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	18	44	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	18	44	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	3	15	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	10	66	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	5	26	----	----	----
Magnesium	7439-95-4	1	mg/L	2	6	----	----	----
Sodium	7440-23-5	1	mg/L	8	32	----	----	----
Potassium	7440-09-7	1	mg/L	2	4	----	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	0.2	<0.1	----	----	----
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	0.70	3.05	----	----	----
∅ Total Cations	----	0.01	meq/L	0.81	3.28	----	----	----
∅ Ionic Balance	----	0.01	%	----	3.66	----	----	----
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	8	23	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.16	0.06	16.4	0.81
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.10	0.06	16.4	0.62
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.53	0.57	115	5.10



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC105_201229	0874_SW121_201229	0874_SW123_201229	0874_SW125_201229	0874_SW131_201229
Sampling date / time					29-Dec-2020 12:10	29-Dec-2020 12:39	29-Dec-2020 13:13	29-Dec-2020 13:33	29-Dec-2020 14:06
Compound	CAS Number	LOR	Unit		EB2034405-012	EB2034405-013	EB2034405-014	EB2034405-015	EB2034405-016
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.03	0.07	6.07	0.25	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.65	3.06	132	6.14	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	5.1	0.4	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.05	0.04	7.15	0.42	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.15	0.13	40.4	1.59	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	3.86	0.17	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	0.03	5.14	0.29	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.48	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.48	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.48	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.48	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.48	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC105_201229	0874_SW121_201229	0874_SW123_201229	0874_SW125_201229	0874_SW131_201229
Sampling date / time				29-Dec-2020 12:10	29-Dec-2020 12:39	29-Dec-2020 13:13	29-Dec-2020 13:33	29-Dec-2020 14:06	
Compound	CAS Number	LOR	Unit	EB2034405-012	EB2034405-013	EB2034405-014	EB2034405-015	EB2034405-016	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.19	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.19	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.19	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.19	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.19	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	1.69	4.02	348	15.8	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	1.18	3.63	247	11.2	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	1.56	3.89	325	14.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.0	99.5	101	125	84.0	
13C8-PFOA	----	0.02	%	98.6	100	98.3	130	94.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_201229	0874_SW102_201229	0874_QC106_201229	0874_SW010_201229	0874_SW132_201229
Sampling date / time				29-Dec-2020 14:15	29-Dec-2020 14:32	29-Dec-2020 14:33	29-Dec-2020 14:59	29-Dec-2020 15:10	
Compound	CAS Number	LOR	Unit	EB2034405-017	EB2034405-018	EB2034405-019	EB2034405-020	EB2034405-021	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.03	0.03	0.08	0.28	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	0.02	0.02	0.05	0.20	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.17	0.20	0.20	0.39	1.43	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.08	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.47	0.46	1.11	2.70	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.2	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.22	0.19	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.04	0.20	0.47	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.08	0.09	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.08	0.13	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_201229	0874_SW102_201229	0874_QC106_201229	0874_SW010_201229	0874_SW132_201229
Sampling date / time				29-Dec-2020 14:15	29-Dec-2020 14:32	29-Dec-2020 14:33	29-Dec-2020 14:59	29-Dec-2020 15:10	
Compound	CAS Number	LOR	Unit	EB2034405-017	EB2034405-018	EB2034405-019	EB2034405-020	EB2034405-021	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.53	0.76	0.75	2.41	5.77	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.43	0.67	0.66	1.50	4.13	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.51	0.74	0.73	2.36	5.49	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.4	90.1	86.7	91.1	95.1	
13C8-PFOA	----	0.02	%	93.8	95.8	94.9	94.5	96.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_201229	0874_SW129_201229	0874_SW129_201230	0874_QC107_201230	0874_QC503_201230
Sampling date / time					29-Dec-2020 17:49	29-Dec-2020 18:22	30-Dec-2020 08:35	30-Dec-2020 08:36	30-Dec-2020 08:41
Compound	CAS Number	LOR	Unit		EB2034405-022	EB2034405-023	EB2034405-024	EB2034405-025	EB2034405-026
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		----	7.17	7.16	7.14	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		----	344	161	153	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		----	62	48	60	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		----	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		----	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		----	38	26	28	----
Total Alkalinity as CaCO3	----	1	mg/L		----	38	26	28	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		----	23	8	8	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		----	142	38	39	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		----	11	7	7	----
Magnesium	7439-95-4	1	mg/L		----	9	3	3	----
Sodium	7440-23-5	1	mg/L		----	80	26	27	----
Potassium	7440-09-7	1	mg/L		----	6	3	3	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		----	0.1	<0.1	<0.1	----
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L		----	5.24	1.76	1.83	----
∅ Total Cations	----	0.01	meq/L		----	4.92	1.80	1.85	----
∅ Ionic Balance	----	0.01	%		----	3.16	----	----	----
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L		----	9	11	12	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_201229	0874_SW129_201229	0874_SW129_201230	0874_QC107_201230	0874_QC503_201230
Sampling date / time					29-Dec-2020 17:49	29-Dec-2020 18:22	30-Dec-2020 08:35	30-Dec-2020 08:36	30-Dec-2020 08:41
Compound	CAS Number	LOR	Unit	EB2034405-022	EB2034405-023	EB2034405-024	EB2034405-025	EB2034405-026	EB2034405-026
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	83.5	88.6	85.2	91.9	89.6	89.6
13C8-PFOA	----	0.02	%	97.1	96.6	94.7	92.9	93.3	93.3



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_201230	0874_SW014_201230	0874_SW017_201230	0874_SW127_201230	0874_SW121_201230
Sampling date / time				30-Dec-2020 09:26	30-Dec-2020 09:47	30-Dec-2020 10:01	30-Dec-2020 10:20	30-Dec-2020 10:48	
Compound	CAS Number	LOR	Unit	EB2034405-027	EB2034405-028	EB2034405-029	EB2034405-030	EB2034405-031	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	----	----	----	6.88	6.96	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	76	238	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	11	<5	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	22	55	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	22	55	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	2	19	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	10	71	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	6	30	
Magnesium	7439-95-4	1	mg/L	----	----	----	2	6	
Sodium	7440-23-5	1	mg/L	----	----	----	8	39	
Potassium	7440-09-7	1	mg/L	----	----	----	2	4	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	<0.1	0.1	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	0.76	3.50	
∅ Total Cations	----	0.01	meq/L	----	----	----	0.86	3.79	
∅ Ionic Balance	----	0.01	%	----	----	----	----	4.01	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	8	20	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.36	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.16	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.09	<0.02	<0.02	<0.02	0.89	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_201230	0874_SW014_201230	0874_SW017_201230	0874_SW127_201230	0874_SW121_201230
Sampling date / time					30-Dec-2020 09:26	30-Dec-2020 09:47	30-Dec-2020 10:01	30-Dec-2020 10:20	30-Dec-2020 10:48
Compound	CAS Number	LOR	Unit	EB2034405-027	EB2034405-028	EB2034405-029	EB2034405-030	EB2034405-031	EB2034405-031
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.16	<0.01	<0.01	<0.01	<0.01	2.97
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	<0.01	<0.01	<0.01	<0.01	1.90
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	<0.01	<0.01	<0.01	<0.01	2.77
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	84.3	83.3	90.8	82.6	93.4	93.4
13C8-PFOA	----	0.02	%	94.0	94.2	95.6	93.6	93.8	93.8



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC108_201230	0874_SW125_201230	0874_SW131_201230	0874_SW016_201230	0874_SW102_201230
Sampling date / time				30-Dec-2020 11:21	30-Dec-2020 11:22	30-Dec-2020 11:43	30-Dec-2020 12:13	30-Dec-2020 12:28	
Compound	CAS Number	LOR	Unit	EB2034405-032	EB2034405-033	EB2034405-034	EB2034405-035	EB2034405-036	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.60	0.40	0.63	0.04	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.42	0.30	0.65	0.03	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	3.26	2.33	6.09	0.22	0.24	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.31	0.21	0.54	<0.02	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.8	9.54	12.5	0.44	0.58	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.4	<0.3	<0.4	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.35	0.25	0.40	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.96	0.64	1.43	0.07	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.05	0.16	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.12	0.08	0.35	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC108_201230	0874_SW125_201230	0874_SW131_201230	0874_SW016_201230	0874_SW102_201230
Sampling date / time					30-Dec-2020 11:21	30-Dec-2020 11:22	30-Dec-2020 11:43	30-Dec-2020 12:13	30-Dec-2020 12:28
Compound	CAS Number	LOR	Unit		EB2034405-032	EB2034405-033	EB2034405-034	EB2034405-035	EB2034405-036
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	16.9	13.8	22.8	0.82	0.94	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	14.1	11.9	18.6	0.66	0.82	
Sum of PFAS (WA DER List)	----	0.01	µg/L	16.2	13.3	21.6	0.79	0.89	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.3	87.6	96.5	99.2	103	
13C8-PFOA	----	0.02	%	96.1	95.9	95.9	96.3	98.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_201230	0874_SW010_201230	0874_SW132_201230	0874_SW117_201230	0874_SW118_201230
				Sampling date / time	30-Dec-2020 12:47	30-Dec-2020 13:05	30-Dec-2020 13:26	30-Dec-2020 13:45	30-Dec-2020 14:01
Compound	CAS Number	LOR	Unit	EB2034405-037	EB2034405-038	EB2034405-039	EB2034405-040	EB2034405-041	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	<0.02	0.05	0.04	0.16	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	<0.02	0.04	0.04	0.13	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.76	0.09	0.22	0.22	0.82	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.11	<0.02	<0.02	<0.02	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.28	0.48	0.60	0.75	1.88	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.07	<0.05	<0.05	<0.04	<0.09	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.20	0.04	0.10	0.11	0.32	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.02	0.03	0.03	0.09	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_201230	0874_SW010_201230	0874_SW132_201230	0874_SW117_201230	0874_SW118_201230
Sampling date / time					30-Dec-2020 12:47	30-Dec-2020 13:05	30-Dec-2020 13:26	30-Dec-2020 13:45	30-Dec-2020 14:01
Compound	CAS Number	LOR	Unit	EB2034405-037	EB2034405-038	EB2034405-039	EB2034405-040	EB2034405-041	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.59	0.63	1.04	1.19	3.50	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.04	0.57	0.82	0.97	2.70	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.39	0.63	1.00	1.15	3.32	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	105	98.9	108	112	
13C8-PFOA	----	0.02	%	96.5	97.9	98.9	97.1	97.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_201230	0874_SW115_201230	0874_SW116_201230	0874_SW109_201230	0874_SW108_201230
Sampling date / time				30-Dec-2020 14:04	30-Dec-2020 14:11	30-Dec-2020 14:27	30-Dec-2020 14:39	30-Dec-2020 14:49	
Compound	CAS Number	LOR	Unit	EB2034405-042	EB2034405-043	EB2034405-044	EB2034405-045	EB2034405-046	
				Result	Result	Result	Result	Result	
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit	----	----	7.05	----	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	----	453	----	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	14	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	27	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	27	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	44	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	220	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	17	----	----	
Magnesium	7439-95-4	1	mg/L	----	----	14	----	----	
Sodium	7440-23-5	1	mg/L	----	----	113	----	----	
Potassium	7440-09-7	1	mg/L	----	----	6	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	0.1	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	7.66	----	----	
∅ Total Cations	----	0.01	meq/L	----	----	7.07	----	----	
∅ Ionic Balance	----	0.01	%	----	----	4.02	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	8	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.09	0.06	0.04	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.07	0.04	0.04	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.49	0.28	0.25	0.18	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_201230	0874_SW115_201230	0874_SW116_201230	0874_SW109_201230	0874_SW108_201230
Sampling date / time					30-Dec-2020 14:04	30-Dec-2020 14:11	30-Dec-2020 14:27	30-Dec-2020 14:39	30-Dec-2020 14:49
Compound	CAS Number	LOR	Unit	EB2034405-042	EB2034405-043	EB2034405-044	EB2034405-045	EB2034405-046	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.94	0.56	0.53	0.38	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.04	<0.03	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.14	0.08	0.07	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.03	0.02	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_201230	0874_SW115_201230	0874_SW116_201230	0874_SW109_201230	0874_SW108_201230
Sampling date / time				30-Dec-2020 14:04	30-Dec-2020 14:11	30-Dec-2020 14:27	30-Dec-2020 14:39	30-Dec-2020 14:49	
Compound	CAS Number	LOR	Unit	EB2034405-042	EB2034405-043	EB2034405-044	EB2034405-045	EB2034405-046	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	1.79	1.04	0.95	0.59	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	1.43	0.84	0.78	0.56	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	1.69	1.00	0.91	0.59	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	112	109	118	120	
13C8-PFOA	----	0.02	%	101	99.5	99.8	103	104	



Surrogate Control Limits

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2034405
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487
C-O-C number : 17398
Sampler :
Site : QLD_0874
Quote number : TV/123/20
No. of samples received : 46
No. of samples analysed : 46

Page : 1 of 13
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 31-Dec-2020
Date Analysis Commenced : 31-Dec-2020
Issue Date : 07-Jan-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Rows include Senior Inorganic Chemist, Senior Organic Chemist, and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA005P: pH by PC Titrator (QC Lot: 3446508)									
EB2034405-004	0874_SW116_201229	EA005-P: pH Value	----	0.01	pH Unit	6.71	6.76	0.742	0% - 20%
EB2034418-001	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	6.67	6.72	0.747	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 3446690)									
EB2034317-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	3950	3870	2.21	0% - 20%
EB2034380-004	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	363	368	1.37	0% - 20%
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 3446692)									
EB2034417-002	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	47400	49700	4.70	0% - 20%
EB2034405-013	0874_SW121_201229	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	256	259	1.16	0% - 20%
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3446689)									
EB2033755-003	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
EB2034380-004	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	6	6	0.00	No Limit
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3446691)									
EB2034417-002	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
EB2034405-013	0874_SW121_201229	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3446507)									
EB2034405-004	0874_SW116_201229	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	16	15	0.00	0% - 50%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	16	15	0.00	0% - 50%
EB2034418-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	100	104	3.22	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	100	104	3.22	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3445871)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3445871) - continued									
EB2034405-044	0874_SW116_201230	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	44	44	0.00	0% - 20%
EB2034405-004	0874_SW116_201229	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	38	38	0.00	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3445872)									
EB2034405-004	0874_SW116_201229	ED045G: Chloride	16887-00-6	1	mg/L	153	153	0.00	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 3446813)									
EB2034364-043	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	18	18	0.00	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	21	20	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	171	167	2.13	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	8	8	0.00	No Limit
EB2034405-025	0874_QC107_201230	ED093F: Calcium	7440-70-2	1	mg/L	7	6	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	3	3	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	27	26	0.00	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.00	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 3446506)									
EB2034405-004	0874_SW116_201229	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit
EB2034418-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.2	0.2	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3445430)									
EB2034405-004	0874_SW116_201229	EP002: Dissolved Organic Carbon	----	1	mg/L	8	8	0.00	No Limit
ET2005070-001	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	4	4	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3446871)									
EB2034405-023	0874_SW129_201229	EP002: Dissolved Organic Carbon	----	1	mg/L	9	8	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446983)									
EB2034405-002	0874_SW118_201229	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.74	0.64	13.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.07	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.28	0.29	5.01	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446984)									
EB2034405-016	0874_SW131_201229	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.14	5.44	12.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.81	0.80	1.30	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.62	0.62	0.00	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	5.10	4.84	5.21	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.25	0.27	7.30	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446985)									
EB2034405-038	0874_SW010_201230	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.48	0.45	5.41	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3446985) - continued									
EB2034405-038	0874_SW010_201230	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.09	0.09	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446983)									
EB2034405-002	0874_SW118_201229	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.11	0.11	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446984)									
EB2034405-016	0874_SW131_201229	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.29	0.28	0.00	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.42	0.43	0.00	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.59	1.58	0.00	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.17	0.17	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.4	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3446985)									
EB2034405-038	0874_SW010_201230	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.05	<0.04	22.2	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446983)									
EB2034405-002	0874_SW118_201229	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446984)									
EB2034405-016	0874_SW131_201229	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3446985)									
EB2034405-038	0874_SW010_201230	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446983)									
EB2034405-002	0874_SW118_201229	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	<0.05	23.7	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446984)									
EB2034405-016	0874_SW131_201229	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3446985)									
EB2034405-038	0874_SW010_201230	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3446983)									
EB2034405-002	0874_SW118_201229	EP231X: Sum of PFAS	----	0.01	µg/L	1.39	1.25	10.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.02	0.93	9.23	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.34	1.20	11.0	0% - 20%
EP231P: PFAS Sums (QC Lot: 3446984)									
EB2034405-016	0874_SW131_201229	EP231X: Sum of PFAS	----	0.01	µg/L	15.8	14.8	6.27	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.2	10.3	8.92	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	14.9	13.9	6.79	0% - 20%
EP231P: PFAS Sums (QC Lot: 3446985)									
EB2034405-038	0874_SW010_201230	EP231X: Sum of PFAS	----	0.01	µg/L	0.63	0.60	4.88	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.57	0.54	5.40	0% - 20%

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 Work Order : EB2034405
 Client : AECOM Australia Pty Ltd
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Recovery Limits (%)</i>
EP231P: PFAS Sums (QC Lot: 3446985) - continued									
EB2034405-038	0874_SW010_201230	EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.63	0.60	4.88	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EA005P: pH by PC Titrator (QCLot: 3446508)								
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	101	98.0	102
				----	7 pH Unit	101	98.0	102
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 3446690)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2460 mg/L	97.2	88.0	112
				<10	293 mg/L	102	88.0	112
				<10	2000 mg/L	96.7	80.9	118
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 3446692)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2460 mg/L	93.8	88.0	112
				<10	293 mg/L	103	88.0	112
				<10	2000 mg/L	96.8	80.9	118
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3446689)								
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	102	88.0	112
				<5	1000 mg/L	97.2	88.0	112
				<5	951 mg/L	106	87.2	116
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3446691)								
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	104	88.0	112
				<5	1000 mg/L	96.6	88.0	112
				<5	951 mg/L	103	87.2	116
ED037P: Alkalinity by PC Titrator (QCLot: 3446507)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	96.7	80.0	120
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3445871)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	102	85.0	118
				<1	100 mg/L	95.1	85.0	118
ED045G: Chloride by Discrete Analyser (QCLot: 3445872)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	95.7	90.0	115
				<1	1000 mg/L	106	90.0	115
ED093F: Dissolved Major Cations (QCLot: 3446813)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	95.1	70.0	130
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	97.8	70.0	130
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	97.7	70.0	130
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	94.8	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3446506)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	102	80.0	117
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3445430)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3445430) - continued									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	95.9	80.0	112	
				<1	100 mg/L	99.0	80.0	112	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3446871)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	86.3	80.0	112	
				<1	100 mg/L	97.8	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446983)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	123	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	120	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	132	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	123	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446984)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	114	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	92.9	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	91.4	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	89.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.4	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446985)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	101	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	96.1	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	95.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	93.2	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446983)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.6	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	114	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	112	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446984)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.3	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	91.4	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	83.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.1	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446985)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.4	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.6	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	86.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.4	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.1	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446983)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	141	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	135	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	118	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	115	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	116	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446984)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	131	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	110	60.5	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
				Result		LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446984) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	108	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	85.2	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446985)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	137	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	71.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.6	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.7	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.0	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	98.2	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446983)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	114	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	129	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	128	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	111	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446984)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	89.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	99.9	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	90.4	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	79.5	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446985)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	106	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	96.3	64.2	133	
EP231P: PFAS Sums (QCLot: 3446983)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP231P: PFAS Sums (QCLot: 3446983) - continued									
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3446984)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3446985)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%)	
					Low	High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3445871)							
EB2034405-011	0874_SW127_201229	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	122	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3445872)							
EB2034405-011	0874_SW127_201229	ED045G: Chloride	16887-00-6	400 mg/L	103	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3446506)							
EB2034405-011	0874_SW127_201229	EK040P: Fluoride	16984-48-8	5 mg/L	93.8	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3445430)							
EB2034405-011	0874_SW127_201229	EP002: Dissolved Organic Carbon	----	100 mg/L	98.3	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3446984)							
EB2034405-031	0874_SW121_201230	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	126	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	110	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	99.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	106	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446984)							



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3446984) - continued							
EB2034405-031	0874_SW121_201230	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	111	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	122	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.7	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	100	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	93.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	106	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	110	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	99.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	111	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3446984)							
EB2034405-031	0874_SW121_201230	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	111	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	128	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	108	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	126	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	102	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	87.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3446984)							
EB2034405-031	0874_SW121_201230	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	92.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	109	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	103	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	107	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2034405	Page	: 1 of 13
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 31-Dec-2020
Site	: QLD_0874	Issue Date	: 07-Jan-2021
Sampler	: [REDACTED]	No. of samples received	: 46
Order number	: 60612487	No. of samples analysed	: 46

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2034405--031	0874_SW121_201230	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2034405--031	0874_SW121_201230	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue	
EA005P: pH by PC Titrator								
Clear Plastic Bottle - Natural	0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	----	----	----	05-Jan-2021	30-Dec-2020	6
Clear Plastic Bottle - Natural	0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	----	----	----	05-Jan-2021	30-Dec-2020	6
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural	0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	----	----	----	06-Jan-2021	05-Jan-2021	1

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	3	53	5.66	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	53	1.89	5.00	NEPM 2013 B3 & ALS QC Standard



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA005P: pH by PC Titrator								
Clear Plastic Bottle - Natural (EA005-P) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	05-Jan-2021	30-Dec-2020	*
Clear Plastic Bottle - Natural (EA005-P) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	05-Jan-2021	30-Dec-2020	*
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Clear Plastic Bottle - Natural (EA015H) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	04-Jan-2021	05-Jan-2021	✓
Clear Plastic Bottle - Natural (EA015H) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	04-Jan-2021	06-Jan-2021	✓
EA025: Total Suspended Solids dried at 104 ± 2 °C								
Clear Plastic Bottle - Natural (EA025H) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	04-Jan-2021	05-Jan-2021	✓
Clear Plastic Bottle - Natural (EA025H) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	04-Jan-2021	06-Jan-2021	✓



Matrix: **WATER** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	05-Jan-2021	12-Jan-2021	✔
Clear Plastic Bottle - Natural (ED037-P) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	05-Jan-2021	13-Jan-2021	✔
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	04-Jan-2021	26-Jan-2021	✔
Clear Plastic Bottle - Natural (ED041G) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	04-Jan-2021	27-Jan-2021	✔
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	04-Jan-2021	26-Jan-2021	✔
Clear Plastic Bottle - Natural (ED045G) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	04-Jan-2021	27-Jan-2021	✔
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	06-Jan-2021	05-Jan-2021	✖
Clear Plastic Bottle - Natural (ED093F) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	06-Jan-2021	06-Jan-2021	✔



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_201229, 0874_QC105_201229, 0874_SW129_201229	0874_SW127_201229, 0874_SW121_201229,	29-Dec-2020	----	----	----	05-Jan-2021	26-Jan-2021	✓
Clear Plastic Bottle - Natural (EK040P) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	05-Jan-2021	27-Jan-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW129_201229		29-Dec-2020	----	----	----	04-Jan-2021	26-Jan-2021	✓
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_201229, 0874_QC105_201229,	0874_SW127_201229, 0874_SW121_201229	29-Dec-2020	----	----	----	31-Dec-2020	26-Jan-2021	✓
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW129_201230, 0874_SW127_201230, 0874_SW116_201230	0874_QC107_201230, 0874_SW121_201230,	30-Dec-2020	----	----	----	31-Dec-2020	27-Jan-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_201229, 0874_SW115_201229, 0874_SW109_201229, 0874_SW112_201229, 0874_SW014_201229, 0874_SW127_201229, 0874_SW121_201229,	0874_SW118_201229, 0874_SW116_201229, 0874_SW108_201229, 0874_QC502_201229, 0874_SW017_201229, 0874_QC105_201229, 0874_SW123_201229	29-Dec-2020	04-Jan-2021	27-Jun-2021	✓	05-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW125_201229, 0874_SW016_201229, 0874_QC106_201229, 0874_SW132_201229, 0874_SW129_201229	0874_SW131_201229, 0874_SW102_201229, 0874_SW010_201229, 0874_QC302_201229,	29-Dec-2020	06-Jan-2021	27-Jun-2021	✓	06-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW016_201230, 0874_SW123_201230, 0874_SW132_201230, 0874_SW118_201230, 0874_SW115_201230, 0874_SW109_201230,	0874_SW102_201230, 0874_SW010_201230, 0874_SW117_201230, 0874_QC303_201230, 0874_SW116_201230, 0874_SW108_201230	30-Dec-2020	05-Jan-2021	28-Jun-2021	✓	05-Jan-2021	28-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201230, 0874_QC503_201230, 0874_SW014_201230, 0874_SW127_201230, 0874_QC108_201230, 0874_SW131_201230	0874_QC107_201230, 0874_SW112_201230, 0874_SW017_201230, 0874_SW121_201230, 0874_SW125_201230,	30-Dec-2020	06-Jan-2021	28-Jun-2021	✓	06-Jan-2021	28-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_201229, 0874_SW115_201229, 0874_SW109_201229, 0874_SW112_201229, 0874_SW014_201229, 0874_SW127_201229, 0874_SW121_201229,	0874_SW118_201229, 0874_SW116_201229, 0874_SW108_201229, 0874_QC502_201229, 0874_SW017_201229, 0874_QC105_201229, 0874_SW123_201229	29-Dec-2020	04-Jan-2021	27-Jun-2021	✓	05-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW125_201229, 0874_SW016_201229, 0874_QC106_201229, 0874_SW132_201229, 0874_SW129_201229	0874_SW131_201229, 0874_SW102_201229, 0874_SW010_201229, 0874_QC302_201229,	29-Dec-2020	06-Jan-2021	27-Jun-2021	✓	06-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW016_201230, 0874_SW123_201230, 0874_SW132_201230, 0874_SW118_201230, 0874_SW115_201230, 0874_SW109_201230,	0874_SW102_201230, 0874_SW010_201230, 0874_SW117_201230, 0874_QC303_201230, 0874_SW116_201230, 0874_SW108_201230	30-Dec-2020	05-Jan-2021	28-Jun-2021	✓	05-Jan-2021	28-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201230, 0874_QC503_201230, 0874_SW014_201230, 0874_SW127_201230, 0874_QC108_201230, 0874_SW131_201230	0874_QC107_201230, 0874_SW112_201230, 0874_SW017_201230, 0874_SW121_201230, 0874_SW125_201230,	30-Dec-2020	06-Jan-2021	28-Jun-2021	✓	06-Jan-2021	28-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW117_201229, 0874_SW115_201229, 0874_SW109_201229, 0874_SW112_201229, 0874_SW014_201229, 0874_SW127_201229, 0874_SW121_201229,	0874_SW118_201229, 0874_SW116_201229, 0874_SW108_201229, 0874_QC502_201229, 0874_SW017_201229, 0874_QC105_201229, 0874_SW123_201229	29-Dec-2020	04-Jan-2021	27-Jun-2021	✓	05-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW125_201229, 0874_SW016_201229, 0874_QC106_201229, 0874_SW132_201229, 0874_SW129_201229	0874_SW131_201229, 0874_SW102_201229, 0874_SW010_201229, 0874_QC302_201229,	29-Dec-2020	06-Jan-2021	27-Jun-2021	✓	06-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW016_201230, 0874_SW123_201230, 0874_SW132_201230, 0874_SW118_201230, 0874_SW115_201230, 0874_SW109_201230,	0874_SW102_201230, 0874_SW010_201230, 0874_SW117_201230, 0874_QC303_201230, 0874_SW116_201230, 0874_SW108_201230	30-Dec-2020	05-Jan-2021	28-Jun-2021	✓	05-Jan-2021	28-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201230, 0874_QC503_201230, 0874_SW014_201230, 0874_SW127_201230, 0874_QC108_201230, 0874_SW131_201230	0874_QC107_201230, 0874_SW112_201230, 0874_SW017_201230, 0874_SW121_201230, 0874_SW125_201230,	30-Dec-2020	06-Jan-2021	28-Jun-2021	✓	06-Jan-2021	28-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_201229, 0874_SW115_201229, 0874_SW109_201229, 0874_SW112_201229, 0874_SW014_201229, 0874_SW127_201229, 0874_SW121_201229,	0874_SW118_201229, 0874_SW116_201229, 0874_SW108_201229, 0874_QC502_201229, 0874_SW017_201229, 0874_QC105_201229, 0874_SW123_201229	29-Dec-2020	04-Jan-2021	27-Jun-2021	✓	05-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW125_201229, 0874_SW016_201229, 0874_QC106_201229, 0874_SW132_201229, 0874_SW129_201229,	0874_SW131_201229, 0874_SW102_201229, 0874_SW010_201229, 0874_QC302_201229,	29-Dec-2020	06-Jan-2021	27-Jun-2021	✓	06-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW016_201230, 0874_SW123_201230, 0874_SW132_201230, 0874_SW118_201230, 0874_SW115_201230, 0874_SW109_201230,	0874_SW102_201230, 0874_SW010_201230, 0874_SW117_201230, 0874_QC303_201230, 0874_SW116_201230, 0874_SW108_201230	30-Dec-2020	05-Jan-2021	28-Jun-2021	✓	05-Jan-2021	28-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201230, 0874_QC503_201230, 0874_SW014_201230, 0874_SW127_201230, 0874_QC108_201230, 0874_SW131_201230	0874_QC107_201230, 0874_SW112_201230, 0874_SW017_201230, 0874_SW121_201230, 0874_SW125_201230,	30-Dec-2020	06-Jan-2021	28-Jun-2021	✓	06-Jan-2021	28-Jun-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW117_201229, 0874_SW115_201229, 0874_SW109_201229, 0874_SW112_201229, 0874_SW014_201229, 0874_SW127_201229, 0874_SW121_201229,	0874_SW118_201229, 0874_SW116_201229, 0874_SW108_201229, 0874_QC502_201229, 0874_SW017_201229, 0874_QC105_201229, 0874_SW123_201229	29-Dec-2020	04-Jan-2021	27-Jun-2021	✓	05-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW125_201229, 0874_SW016_201229, 0874_QC106_201229, 0874_SW132_201229, 0874_SW129_201229	0874_SW131_201229, 0874_SW102_201229, 0874_SW010_201229, 0874_QC302_201229,	29-Dec-2020	06-Jan-2021	27-Jun-2021	✓	06-Jan-2021	27-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW016_201230, 0874_SW123_201230, 0874_SW132_201230, 0874_SW118_201230, 0874_SW115_201230, 0874_SW109_201230,	0874_SW102_201230, 0874_SW010_201230, 0874_SW117_201230, 0874_QC303_201230, 0874_SW116_201230, 0874_SW108_201230	30-Dec-2020	05-Jan-2021	28-Jun-2021	✓	05-Jan-2021	28-Jun-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW129_201230, 0874_QC503_201230, 0874_SW014_201230, 0874_SW127_201230, 0874_QC108_201230, 0874_SW131_201230	0874_QC107_201230, 0874_SW112_201230, 0874_SW017_201230, 0874_SW121_201230, 0874_SW125_201230,	30-Dec-2020	06-Jan-2021	28-Jun-2021	✓	06-Jan-2021	28-Jun-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	3	17	17.65	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	53	5.66	10.00	✘	NEPM 2013 B3 & ALS QC Standard
pH by PC Titrator	EA005-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	12	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	4	35	11.43	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	4	37	10.81	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	4	17	23.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	53	5.66	5.00	✔	NEPM 2013 B3 & ALS QC Standard
pH by PC Titrator	EA005-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	12	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	6	35	17.14	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	6	37	16.22	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	17	11.76	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	53	5.66	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	12	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	35	5.71	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	53	1.89	5.00	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	12	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH by PC Titrator	EA005-P	WATER	In house: Referenced to APHA 4500 H+ B. This procedure determines pH of water samples by automated ISE. This method is compliant with NEPM Schedule B(3)
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of 'filterable' residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	<p>In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.</p>
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	<p>In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.</p>



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2034405

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487	Quote number	: ET2020AECOMAU0001 (TV/123/20)
C-O-C number	: 17398	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 31-Dec-2020 07:55	Issue Date	: 31-Dec-2020
Client Requested Due Date	: 07-Jan-2021	Scheduled Reporting Date	: 07-Jan-2021

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 5.9/ 3.8°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 46 / 46

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***Samples were originally received by ALS TOWNSVILLE on 30/12/2020, and forwarded to ALS Brisbane for analysis.**
- **31/12/20: SRN has been resent to acknowledge the addition of analysis. For any further information regarding these adjustments please contact client services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA005P pH (PCT)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EA025H Suspended Solids - Standard Level	WATER - EN055 - PG Ionic Balance by ED037P, ED041G, ED045G &	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2034405-001	29-Dec-2020 08:00	0874_SW117_201229						✓	
EB2034405-002	29-Dec-2020 08:16	0874_SW118_201229						✓	
EB2034405-003	29-Dec-2020 08:26	0874_SW115_201229						✓	
EB2034405-004	29-Dec-2020 08:47	0874_SW116_201229	✓	✓	✓	✓	✓	✓	✓
EB2034405-005	29-Dec-2020 09:00	0874_SW109_201229						✓	
EB2034405-006	29-Dec-2020 09:12	0874_SW108_201229						✓	
EB2034405-007	29-Dec-2020 11:09	0874_SW112_201229						✓	
EB2034405-008	29-Dec-2020 11:11	0874_QC502_201229						✓	
EB2034405-009	29-Dec-2020 11:30	0874_SW014_201229						✓	
EB2034405-010	29-Dec-2020 11:42	0874_SW017_201229						✓	
EB2034405-011	29-Dec-2020 12:09	0874_SW127_201229	✓	✓	✓	✓	✓	✓	✓
EB2034405-012	29-Dec-2020 12:10	0874_QC105_201229	✓	✓	✓	✓	✓	✓	✓
EB2034405-013	29-Dec-2020 12:39	0874_SW121_201229	✓	✓	✓	✓	✓	✓	✓
EB2034405-014	29-Dec-2020 13:13	0874_SW123_201229						✓	
EB2034405-015	29-Dec-2020 13:33	0874_SW125_201229						✓	
EB2034405-016	29-Dec-2020 14:06	0874_SW131_201229						✓	
EB2034405-017	29-Dec-2020 14:15	0874_SW016_201229						✓	
EB2034405-018	29-Dec-2020 14:32	0874_SW102_201229						✓	
EB2034405-019	29-Dec-2020 14:33	0874_QC106_201229						✓	
EB2034405-020	29-Dec-2020 14:59	0874_SW010_201229						✓	
EB2034405-021	29-Dec-2020 15:10	0874_SW132_201229						✓	
EB2034405-022	29-Dec-2020 17:49	0874_QC302_201229						✓	
EB2034405-023	29-Dec-2020 18:22	0874_SW129_201229	✓	✓	✓	✓	✓	✓	✓
EB2034405-024	30-Dec-2020 08:35	0874_SW129_201230	✓	✓	✓	✓	✓	✓	✓
EB2034405-025	30-Dec-2020 08:36	0874_QC107_201230	✓	✓	✓	✓	✓	✓	✓
EB2034405-026	30-Dec-2020 08:41	0874_QC503_201230						✓	
EB2034405-027	30-Dec-2020 09:26	0874_SW112_201230						✓	
EB2034405-028	30-Dec-2020 09:47	0874_SW014_201230						✓	
EB2034405-029	30-Dec-2020 10:01	0874_SW017_201230						✓	
EB2034405-030	30-Dec-2020 10:20	0874_SW127_201230	✓	✓	✓	✓	✓	✓	✓
EB2034405-031	30-Dec-2020 10:48	0874_SW121_201230	✓	✓	✓	✓	✓	✓	✓
EB2034405-032	30-Dec-2020 11:21	0874_QC108_201230						✓	
EB2034405-033	30-Dec-2020 11:22	0874_SW125_201230						✓	
EB2034405-034	30-Dec-2020 11:43	0874_SW131_201230						✓	
EB2034405-035	30-Dec-2020 12:13	0874_SW016_201230						✓	



			WATER - EA005P pH (PCT)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EA025H Suspended Solids - Standard Level	WATER - EN065 - PG Ionic Balance by ED037P, ED041G, ED045G &	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2034405-036	30-Dec-2020 12:28	0874_SW102_201230						✓	
EB2034405-037	30-Dec-2020 12:47	0874_SW123_201230						✓	
EB2034405-038	30-Dec-2020 13:05	0874_SW010_201230						✓	
EB2034405-039	30-Dec-2020 13:26	0874_SW132_201230						✓	
EB2034405-040	30-Dec-2020 13:45	0874_SW117_201230						✓	
EB2034405-041	30-Dec-2020 14:01	0874_SW118_201230						✓	
EB2034405-042	30-Dec-2020 14:04	0874_QC303_201230						✓	
EB2034405-043	30-Dec-2020 14:11	0874_SW115_201230						✓	
EB2034405-044	30-Dec-2020 14:27	0874_SW116_201230	✓	✓	✓	✓	✓	✓	✓
EB2034405-045	30-Dec-2020 14:39	0874_SW109_201230						✓	
EB2034405-046	30-Dec-2020 14:49	0874_SW108_201230						✓	

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

Evaluation: ✗ = Holding time breach ; ✓ = Within holding time.

Method	Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
					Date	Evaluation	Date	Evaluation
EA005-P: pH by PC Titrator								
	0874_QC105_201223	Clear Plastic Bottle - Natural	----	29-Dec-2020	31-Dec-2020	✗	----	----
	0874_QC107_201230	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW116_201223	Clear Plastic Bottle - Natural	----	29-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW116_201230	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW121_201223	Clear Plastic Bottle - Natural	----	29-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW121_201230	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW127_201223	Clear Plastic Bottle - Natural	----	29-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW127_201230	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW129_201223	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----
	0874_SW129_201230	Clear Plastic Bottle - Natural	----	30-Dec-2020	31-Dec-2020	✗	----	----



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2100007**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **17413**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/123/20**
No. of samples received : **22**
No. of samples analysed : **22**

Page : 1 of 16
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 05-Jan-2021 08:20
Date Analysis Commenced : 05-Jan-2021
Issue Date : 12-Jan-2021 11:20



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Inorganic Chemist	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFDS has been raised for sample '0874_SW123_201231' due to matrix interference.
- EP231X PFAS: The LOR for PFOS has been raised for sample '0874_SW112_201231' due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Ionic Balance out of acceptable limits due to analytes not quantified in this report.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW127_201231	0874_QC504_201231	0874_SW129_201231	0874_SW112_201231	0874_SW014_201231
		Sampling date / time		31-Dec-2020 08:09	31-Dec-2020 08:13	31-Dec-2020 08:29	31-Dec-2020 09:11	31-Dec-2020 09:32
Compound	CAS Number	LOR	Unit	EB2100007-001	EB2100007-002	EB2100007-003	EB2100007-004	EB2100007-005
				Result	Result	Result	Result	Result
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	75	----	287	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	<5	----	34	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	----	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	----	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	26	----	46	----	----
Total Alkalinity as CaCO3	----	1	mg/L	26	----	46	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	2	----	22	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	12	----	98	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	7	----	13	----	----
Magnesium	7439-95-4	1	mg/L	2	----	8	----	----
Sodium	7440-23-5	1	mg/L	10	----	65	----	----
Potassium	7440-09-7	1	mg/L	2	----	5	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	<0.1	----	0.1	----	----
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	0.90	----	4.14	----	----
∅ Total Cations	----	0.01	meq/L	1.00	----	4.26	----	----
∅ Ionic Balance	----	0.01	%	----	----	1.44	----	----
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	6	----	14	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.08	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_201231	0874_QC504_201231	0874_SW129_201231	0874_SW112_201231	0874_SW014_201231
Sampling date / time					31-Dec-2020 08:09	31-Dec-2020 08:13	31-Dec-2020 08:29	31-Dec-2020 09:11	31-Dec-2020 09:32
Compound	CAS Number	LOR	Unit	EB2100007-001	EB2100007-002	EB2100007-003	EB2100007-004	EB2100007-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.10	0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.04	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_201231	0874_QC504_201231	0874_SW129_201231	0874_SW112_201231	0874_SW014_201231
Sampling date / time				31-Dec-2020 08:09	31-Dec-2020 08:13	31-Dec-2020 08:29	31-Dec-2020 09:11	31-Dec-2020 09:32	
Compound	CAS Number	LOR	Unit	EB2100007-001	EB2100007-002	EB2100007-003	EB2100007-004	EB2100007-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	0.08	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	0.15	0.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	0.08	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	0.15	0.09	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	88.1	105	110	103	
13C8-PFOA	----	0.02	%	104	106	105	106	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_201231	0874_SW121_201231	0874_QC109_201231	0874_SW125_201231	0874_SW102_201231
Sampling date / time				31-Dec-2020 09:43	31-Dec-2020 10:29	31-Dec-2020 10:30	31-Dec-2020 10:57	31-Dec-2020 11:24	
Compound	CAS Number	LOR	Unit	EB2100007-006	EB2100007-007	EB2100007-008	EB2100007-009	EB2100007-010	
				Result	Result	Result	Result	Result	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	175	166	----	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	<5	<5	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	61	59	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	61	59	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	14	14	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	30	28	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	26	26	----	----	
Magnesium	7439-95-4	1	mg/L	----	4	4	----	----	
Sodium	7440-23-5	1	mg/L	----	25	25	----	----	
Potassium	7440-09-7	1	mg/L	----	4	4	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	0.1	0.1	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	2.36	2.26	----	----	
∅ Total Cations	----	0.01	meq/L	----	2.82	2.82	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	15	15	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.20	0.20	1.25	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.12	0.12	1.25	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.63	0.68	9.50	0.13	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.04	0.68	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_201231	0874_SW121_201231	0874_QC109_201231	0874_SW125_201231	0874_SW102_201231
Sampling date / time				31-Dec-2020 09:43	31-Dec-2020 10:29	31-Dec-2020 10:30	31-Dec-2020 10:57	31-Dec-2020 11:24	
Compound	CAS Number	LOR	Unit	EB2100007-006	EB2100007-007	EB2100007-008	EB2100007-009	EB2100007-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	1.20	1.32	19.4	0.38	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.2	0.2	0.6	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.10	0.10	0.76	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.22	0.23	3.23	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.27	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.04	0.04	0.49	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_201231	0874_SW121_201231	0874_QC109_201231	0874_SW125_201231	0874_SW102_201231
Sampling date / time				31-Dec-2020 09:43	31-Dec-2020 10:29	31-Dec-2020 10:30	31-Dec-2020 10:57	31-Dec-2020 11:24	
Compound	CAS Number	LOR	Unit	EB2100007-006	EB2100007-007	EB2100007-008	EB2100007-009	EB2100007-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	2.75	2.93	37.4	0.54	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	1.83	2.00	28.9	0.51	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	2.59	2.77	35.5	0.54	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	112	108	113	91.0	104	
13C8-PFOA	----	0.02	%	101	102	102	105	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_201231	0874_QC110_201231	0874_SW123_201231	0874_SW010_201231	0874_SW132_201231
Sampling date / time				31-Dec-2020 11:56	31-Dec-2020 11:57	31-Dec-2020 12:18	31-Dec-2020 12:28	31-Dec-2020 12:44	
Compound	CAS Number	LOR	Unit	EB2100007-011	EB2100007-012	EB2100007-013	EB2100007-014	EB2100007-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.16	0.17	0.10	0.06	0.20	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.18	0.09	0.04	0.19	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.47	1.66	0.68	0.29	1.31	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.11	0.12	0.09	<0.02	0.10	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.38	3.66	3.21	1.06	4.48	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.03	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	<0.1	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.12	0.05	0.09	0.14	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.39	0.40	0.19	0.12	0.45	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.05	0.02	0.05	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	0.09	0.05	0.08	0.16	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_201231	0874_QC110_201231	0874_SW123_201231	0874_SW010_201231	0874_SW132_201231
Sampling date / time				31-Dec-2020 11:56	31-Dec-2020 11:57	31-Dec-2020 12:18	31-Dec-2020 12:28	31-Dec-2020 12:44	
Compound	CAS Number	LOR	Unit	EB2100007-011	EB2100007-012	EB2100007-013	EB2100007-014	EB2100007-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	5.89	6.55	4.48	1.79	7.21	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.85	5.32	3.89	1.35	5.79	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.62	6.25	4.30	1.75	6.92	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.8	91.0	107	97.9	99.4	
13C8-PFOA	----	0.02	%	100	97.5	97.7	98.9	97.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201231	0874_SW118_201231	0874_SW115_201231	0874_SW116_201231	0874_QC304_201231
Sampling date / time				31-Dec-2020 13:12	31-Dec-2020 13:32	31-Dec-2020 13:42	31-Dec-2020 13:57	31-Dec-2020 14:03	
Compound	CAS Number	LOR	Unit	EB2100007-016	EB2100007-017	EB2100007-018	EB2100007-019	EB2100007-020	
				Result	Result	Result	Result	Result	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	283	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	19	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	23	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	23	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	32	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	121	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	11	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	9	----	
Sodium	7440-23-5	1	mg/L	----	----	----	69	----	
Potassium	7440-09-7	1	mg/L	----	----	----	4	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	4.54	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	4.39	----	
∅ Ionic Balance	----	0.01	%	----	----	----	1.63	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	7	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.21	0.08	0.03	0.03	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.20	0.07	0.03	0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.32	0.44	0.19	0.14	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.03	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201231	0874_SW118_201231	0874_SW115_201231	0874_SW116_201231	0874_QC304_201231
Sampling date / time					31-Dec-2020 13:12	31-Dec-2020 13:32	31-Dec-2020 13:42	31-Dec-2020 13:57	31-Dec-2020 14:03
Compound	CAS Number	LOR	Unit	EB2100007-016	EB2100007-017	EB2100007-018	EB2100007-019	EB2100007-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.63	1.12	0.41	0.35	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.05	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.52	0.17	0.05	0.04	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	0.03	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.19	0.06	0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_201231	0874_SW118_201231	0874_SW115_201231	0874_SW116_201231	0874_QC304_201231
Sampling date / time				31-Dec-2020 13:12	31-Dec-2020 13:32	31-Dec-2020 13:42	31-Dec-2020 13:57	31-Dec-2020 14:03	
Compound	CAS Number	LOR	Unit	EB2100007-016	EB2100007-017	EB2100007-018	EB2100007-019	EB2100007-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.51	2.05	0.72	0.59	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.95	1.56	0.60	0.49	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.21	1.95	0.69	0.57	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	103	103	96.1	103	
13C8-PFOA	----	0.02	%	97.9	98.3	98.2	96.5	99.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW109_201231	0874_SW108_201231	----	----	----
		Sampling date / time		31-Dec-2020 14:12	31-Dec-2020 14:21	----	----	----
Compound	CAS Number	LOR	Unit	EB2100007-021	EB2100007-022	-----	-----	-----
				Result	Result	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.15	0.16	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.34	0.38	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.03	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	<0.01	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW109_201231	0874_SW108_201231	----	----	----
		Sampling date / time		31-Dec-2020 14:12	31-Dec-2020 14:21	----	----	----
Compound	CAS Number	LOR	Unit	EB2100007-021	EB2100007-022	-----	-----	-----
				Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	0.56	0.59	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.49	0.54	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.56	0.59	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	99.1	93.8	----	----	----
13C8-PFOA	----	0.02	%	100	100	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		<i>Recovery Limits (%)</i>	
<i>Compound</i>	<i>CAS Number</i>	<i>Low</i>	<i>High</i>
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2100007
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 17413
Sampler :
Site : QLD_0874
Quote number : TV/123/20
No. of samples received : 22
No. of samples analysed : 22

Page : 1 of 10
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 05-Jan-2021
Date Analysis Commenced : 05-Jan-2021
Issue Date : 12-Jan-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Contains 5 rows of signatory information.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 3447995)									
EB2100007-001	0874_SW127_201231	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	75	76	1.66	No Limit
EB2100088-007	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	269	277	2.81	0% - 20%
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3447996)									
EB2100007-001	0874_SW127_201231	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
EB2100088-007	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3448523)									
EB2100014-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	232	229	1.04	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	232	229	1.04	0% - 20%
EB2100007-008	0874_QC109_201231	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	59	62	5.51	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	59	62	5.51	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3451368)									
EB2100227-006	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	2	2	0.00	No Limit
EB2100227-004	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 3451369)									
EB2100227-006	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	<1	<1	0.00	No Limit
EB2100227-004	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	<1	<1	0.00	No Limit
ED093F: Dissolved Major Cations (QC Lot: 3448964)									
EB2100142-007	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	269	269	0.00	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	17	17	0.00	0% - 50%
		ED093F: Sodium	7440-23-5	1	mg/L	222	222	0.00	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3448964) - continued									
EB2100142-007	Anonymous	ED093F: Potassium	7440-09-7	1	mg/L	39	39	0.00	0% - 20%
EB2032287-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	228	232	1.59	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	80	82	1.63	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	279	281	0.750	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	32	32	0.00	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 3448520)									
EB2100007-008	0874_QC109_201231	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.1	0.1	0.00	No Limit
EB2034424-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.2	0.2	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3447863)									
EB2100007-001	0874_SW127_201231	EP002: Dissolved Organic Carbon	----	1	mg/L	6	7	0.00	No Limit
ET2005117-001	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	6	6	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3450235)									
EB2100007-010	0874_SW102_201231	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.38	0.40	7.18	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.13	0.13	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3450236)									
EB2100007-014	0874_SW010_201231	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.06	1.10	3.78	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.05	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.29	0.29	0.00	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3450235)									
EB2100007-010	0874_SW102_201231	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3450236)							
EB2100007-014	0874_SW010_201231	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	0.09	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3450236) - continued									
EB2100007-014	0874_SW010_201231	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.09	0.10	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.13	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3450235)									
EB2100007-010	0874_SW102_201231	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3450236)									
EB2100007-014	0874_SW010_201231	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3450235)									



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3450235) - continued									
EB2100007-010	0874_SW102_201231	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3450236)									
EB2100007-014	0874_SW010_201231	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3450235)									
EB2100007-010	0874_SW102_201231	EP231X: Sum of PFAS	----	0.01	µg/L	0.54	0.58	7.14	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.51	0.53	3.85	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.54	0.58	7.14	0% - 20%
EP231P: PFAS Sums (QC Lot: 3450236)									
EB2100007-014	0874_SW010_201231	EP231X: Sum of PFAS	----	0.01	µg/L	1.79	1.85	3.30	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.35	1.39	2.92	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.75	1.81	3.37	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 3447995)									
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2460 mg/L	100	88.0	112	
				<10	293 mg/L	104	88.0	112	
				<10	2000 mg/L	97.9	80.9	118	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3447996)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	104	88.0	112	
				<5	1000 mg/L	98.8	88.0	112	
				<5	951 mg/L	107	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3448523)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	95.6	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3451368)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	106	85.0	118	
				<1	100 mg/L	96.1	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3451369)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	100	90.0	115	
				<1	1000 mg/L	102	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3448964)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	98.5	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.4	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	97.5	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3448520)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	98.0	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3447863)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	90.8	80.0	112	
				<1	100 mg/L	98.2	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3450235)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	82.3	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	84.6	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	71.2	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	73.5	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	79.5	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	74.9	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3450236)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3450236) - continued									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	99.6	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	98.6	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	88.7	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	101	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	113	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	116	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3450235)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	83.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	73.0	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	75.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	76.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	82.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	78.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	78.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	78.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	81.0	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	75.4	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3450236)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	82.1	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	87.0	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.8	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.6	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.1	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3450235)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	80.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	85.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	69.9	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	78.2	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3450235) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	69.6	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	78.0	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3450236)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	101	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	90.2	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.9	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.4	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3450235)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	75.5	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	80.8	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	75.1	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3450236)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	92.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	102	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	94.0	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	81.1	64.2	133	
EP231P: PFAS Sums (QCLot: 3450235)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3450236)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%)	
					Low	High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3451368)							
EB2100227-005	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	101	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3451369)							
EB2100227-005	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	95.2	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3448520)							
EB2034413-002	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	89.2	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3447863)							
EB2100007-003	0874_SW129_201231	EP002: Dissolved Organic Carbon	----	100 mg/L	99.6	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3450236)							
EB2100007-017	0874_SW118_201231	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	85.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	79.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	77.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	92.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	109	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3450236)							
EB2100007-017	0874_SW118_201231	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	73.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	75.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	79.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	77.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	86.1	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.3	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	81.7	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	84.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	81.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	81.3	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3450236)					
EB2100007-017	0874_SW118_201231	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	84.3	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	86.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	77.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	84.5	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3450236) - continued							
EB2100007-017	0874_SW118_201231	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	92.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.7	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3450236)							
EB2100007-017	0874_SW118_201231	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	82.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	89.2	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	83.6	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	74.9	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2100007	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 05-Jan-2021
Site	: QLD_0874	Issue Date	: 12-Jan-2021
Sampler	: [REDACTED]	No. of samples received	: 22
Order number	: 60612487_2.1	No. of samples analysed	: 22

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2100007--017	0874_SW118_201231	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	24	8.33	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	24	4.17	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Clear Plastic Bottle - Natural (EA015H)								
0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	05-Jan-2021	07-Jan-2021	✓
EA025: Total Suspended Solids dried at 104 ± 2 °C								
Clear Plastic Bottle - Natural (EA025H)								
0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	05-Jan-2021	07-Jan-2021	✓
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P)								
0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	05-Jan-2021	14-Jan-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	07-Jan-2021	28-Jan-2021	✓
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	07-Jan-2021	28-Jan-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	06-Jan-2021	07-Jan-2021	✓
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	05-Jan-2021	28-Jan-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW127_201231, 0874_SW121_201231, 0874_SW116_201231	0874_SW129_201231, 0874_QC109_201231,	31-Dec-2020	----	----	----	05-Jan-2021	28-Jan-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_201231, 0874_SW129_201231, 0874_SW014_201231, 0874_SW121_201231, 0874_SW125_201231, 0874_SW131_201231, 0874_SW123_201231, 0874_SW132_201231, 0874_SW118_201231, 0874_SW116_201231, 0874_SW109_201231,	0874_QC504_201231, 0874_SW112_201231, 0874_SW017_201231, 0874_QC109_201231, 0874_SW102_201231, 0874_QC110_201231, 0874_SW010_201231, 0874_SW117_201231, 0874_SW115_201231, 0874_QC304_201231, 0874_SW108_201231	31-Dec-2020	08-Jan-2021	29-Jun-2021	✓	08-Jan-2021	29-Jun-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW127_201231,	0874_QC504_201231,	31-Dec-2020	08-Jan-2021	29-Jun-2021	✓	08-Jan-2021	29-Jun-2021	✓
0874_SW129_201231,	0874_SW112_201231,							
0874_SW014_201231,	0874_SW017_201231,							
0874_SW121_201231,	0874_QC109_201231,							
0874_SW125_201231,	0874_SW102_201231,							
0874_SW131_201231,	0874_QC110_201231,							
0874_SW123_201231,	0874_SW010_201231,							
0874_SW132_201231,	0874_SW117_201231,							
0874_SW118_201231,	0874_SW115_201231,							
0874_SW116_201231,	0874_QC304_201231,							
0874_SW109_201231,	0874_SW108_201231							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0874_SW127_201231,	0874_QC504_201231,	31-Dec-2020	08-Jan-2021	29-Jun-2021	✓	08-Jan-2021	29-Jun-2021	✓
0874_SW129_201231,	0874_SW112_201231,							
0874_SW014_201231,	0874_SW017_201231,							
0874_SW121_201231,	0874_QC109_201231,							
0874_SW125_201231,	0874_SW102_201231,							
0874_SW131_201231,	0874_QC110_201231,							
0874_SW123_201231,	0874_SW010_201231,							
0874_SW132_201231,	0874_SW117_201231,							
0874_SW118_201231,	0874_SW115_201231,							
0874_SW116_201231,	0874_QC304_201231,							
0874_SW109_201231,	0874_SW108_201231							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW127_201231,	0874_QC504_201231,	31-Dec-2020	08-Jan-2021	29-Jun-2021	✓	08-Jan-2021	29-Jun-2021	✓
0874_SW129_201231,	0874_SW112_201231,							
0874_SW014_201231,	0874_SW017_201231,							
0874_SW121_201231,	0874_QC109_201231,							
0874_SW125_201231,	0874_SW102_201231,							
0874_SW131_201231,	0874_QC110_201231,							
0874_SW123_201231,	0874_SW010_201231,							
0874_SW132_201231,	0874_SW117_201231,							
0874_SW118_201231,	0874_SW115_201231,							
0874_SW116_201231,	0874_QC304_201231,							
0874_SW109_201231,	0874_SW108_201231							



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0874_SW127_201231,	0874_QC504_201231,	31-Dec-2020	08-Jan-2021	29-Jun-2021	✓	08-Jan-2021	29-Jun-2021	✓
0874_SW129_201231,	0874_SW112_201231,							
0874_SW014_201231,	0874_SW017_201231,							
0874_SW121_201231,	0874_QC109_201231,							
0874_SW125_201231,	0874_SW102_201231,							
0874_SW131_201231,	0874_QC110_201231,							
0874_SW123_201231,	0874_SW010_201231,							
0874_SW132_201231,	0874_SW117_201231,							
0874_SW118_201231,	0874_SW115_201231,							
0874_SW116_201231,	0874_QC304_201231,							
0874_SW109_201231,	0874_SW108_201231							



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	24	8.33	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	13	15.38	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	24	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	3	13	23.08	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	3	17	17.65	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	24	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	24	4.17	5.00	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of 'filterable' residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB210007

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: ET2020AECOMAU0001 (TV/123/20)
C-O-C number	: 17413	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 05-Jan-2021 08:20	Issue Date	: 05-Jan-2021
Client Requested Due Date	: 12-Jan-2021	Scheduled Reporting Date	: 12-Jan-2021

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 3.2°C - Ice present
Receipt Detail	: MEDIUM	No. of samples received / analysed	: 22 / 22

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***Samples were originally received by ALS Townsville on 04/01/21 (6.0°C), and forwarded to ALS Brisbane for analysis.**
- **For your reference: Sample '0874_SW132_201231' secondary Grey 20mL container was received empty. Please take this into consideration when reviewing your results.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA005P pH (PCT)	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EA025H Suspended Solids - Standard Level	WATER - EN055 - PG Ionic Balance by ED037P, ED041G, ED045G &	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2100007-001	31-Dec-2020 08:09	0874_SW127_201231	✓	✓	✓	✓	✓	✓	✓
EB2100007-002	31-Dec-2020 08:13	0874_QC504_201231					✓		
EB2100007-003	31-Dec-2020 08:29	0874_SW129_201231	✓	✓	✓	✓	✓	✓	✓
EB2100007-004	31-Dec-2020 09:11	0874_SW112_201231					✓		
EB2100007-005	31-Dec-2020 09:32	0874_SW014_201231					✓		
EB2100007-006	31-Dec-2020 09:43	0874_SW017_201231					✓		
EB2100007-007	31-Dec-2020 10:29	0874_SW121_201231	✓	✓	✓	✓	✓	✓	✓
EB2100007-008	31-Dec-2020 10:30	0874_QC109_201231	✓	✓	✓	✓	✓	✓	✓
EB2100007-009	31-Dec-2020 10:57	0874_SW125_201231					✓		
EB2100007-010	31-Dec-2020 11:24	0874_SW102_201231					✓		
EB2100007-011	31-Dec-2020 11:56	0874_SW131_201231					✓		
EB2100007-012	31-Dec-2020 11:57	0874_QC110_201231					✓		
EB2100007-013	31-Dec-2020 12:18	0874_SW123_201231					✓		
EB2100007-014	31-Dec-2020 12:28	0874_SW010_201231					✓		
EB2100007-015	31-Dec-2020 12:44	0874_SW132_201231					✓		
EB2100007-016	31-Dec-2020 13:12	0874_SW117_201231					✓		
EB2100007-017	31-Dec-2020 13:32	0874_SW118_201231					✓		
EB2100007-018	31-Dec-2020 13:42	0874_SW115_201231					✓		
EB2100007-019	31-Dec-2020 13:57	0874_SW116_201231	✓	✓	✓	✓	✓	✓	✓
EB2100007-020	31-Dec-2020 14:03	0874_QC304_201231					✓		
EB2100007-021	31-Dec-2020 14:12	0874_SW109_201231					✓		
EB2100007-022	31-Dec-2020 14:21	0874_SW108_201231					✓		

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✓ = Within holding time.

Method Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received		Instructions Received	
				Date	Evaluation	Date	Evaluation
EA005-P: pH by PC Titrator							
0874_QC109_201231	Clear Plastic Bottle - Natural	----	31-Dec-2020	05-Jan-2021	✖	----	----
0874_SW116_201231	Clear Plastic Bottle - Natural	----	31-Dec-2020	05-Jan-2021	✖	----	----
0874_SW121_201231	Clear Plastic Bottle - Natural	----	31-Dec-2020	05-Jan-2021	✖	----	----
0874_SW127_201231	Clear Plastic Bottle - Natural	----	31-Dec-2020	05-Jan-2021	✖	----	----
0874_SW129_201231	Clear Plastic Bottle - Natural	----	31-Dec-2020	05-Jan-2021	✖	----	----



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/210105
	Quote No. : QT-02018
	Order No. : 60612487_2_1
	Date Received : 05-JAN-2021
Attention :	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager :	Phone :

Lab Reg No.	Sample Ref	Sample Description
N21/000083	0874_QC204_201228	WATER 28/12/20
N21/000084	0874_QC205_201229	WATER 29/12/20
N21/000086	0874_QC207_201230	WATER 30/12/20
N21/000088	0874_QC209_201231	WATER 31/12/20

Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	0.16	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	0.094	NR70
PFHxA (307-24-4)	ug/L	0.063	<0.01	<0.01	0.21	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	<0.01	0.013	NR70
PFOA (335-67-1)	ug/L	0.013	<0.01	<0.01	0.031	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDaA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.029	<0.01	<0.01	0.100	NR70
PFHxS (355-46-4)	ug/L	0.24	<0.01	<0.01	0.70	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	<0.01	0.024	NR70
PFOS (1763-23-1)	ug/L	0.47	<0.02	<0.02	1.2	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.040	<0.01	<0.01	0.20	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	107	105	112	101	NR70
PFPeA (Surrogate Recovery)	%	110	98	121	112	NR70
PFHxA (Surrogate Recovery)	%	114	97	114	104	NR70
PFHpA (Surrogate Recovery)	%	120	101	111	107	NR70
PFOA (Surrogate Recovery)	%	120	95	114	102	NR70
PFNA (Surrogate Recovery)	%	109	106	118	96	NR70
PFDA (Surrogate Recovery)	%	108	93	113	100	NR70
PFUdA (Surrogate Recovery)	%	93	84	104	96	NR70
PFDoA (Surrogate Recovery)	%	85	81	96	83	NR70
PFTeDA (Surrogate Recovery)	%	84	83	110	87	NR70
PFHxDA (Surrogate Recovery)	%	84	70	85	71	NR70
FOUEA (Surrogate Recovery)	%	79	55	86	71	NR70
PFBS (Surrogate Recovery)	%	118	103	113	108	NR70
PFHxS (Surrogate Recovery)	%	116	105	117	110	NR70
PFOS (Surrogate Recovery)	%	101	90	105	81	NR70
PFOSA (Surrogate Recovery)	%	77	70	93	82	NR70
N-MeFOSA (Surrogate Recovery)	%	52	44	60	65	NR70
N-EtFOSA (Surrogate Recovery)	%	86	55	83	74	NR70
N-MeFOSAA (Surrogate Recovery)	%	67	70	97	65	NR70
N-EtFOSAA (Surrogate Recovery)	%	72	58	94	84	NR70
N-MeFOSE (Surrogate Recovery)	%	62	46	63	59	NR70
N-EtFOSE (Surrogate Recovery)	%	64	23	104	62	NR70
4:2 FTS (Surrogate Recovery)	%	94	87	104	101	NR70
6:2 FTS (Surrogate Recovery)	%	110	88	109	99	NR70
8:2 FTS (Surrogate Recovery)	%	87	90	103	82	NR70
8:2 diPAP (Surrogate Recovery)	%	128	112	135	116	NR70
Dates						
Date extracted		11-JAN-2021	11-JAN-2021	11-JAN-2021	11-JAN-2021	
Date analysed		11-JAN-2021	11-JAN-2021	11-JAN-2021	11-JAN-2021	

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Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method

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Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method

Filtered Trace Elements by ICP

Calcium Filtered	mg/L	15	5	6.4	23	NT2_47
Magnesium Filtered	mg/L	20	1.7	3.4	4.2	NT2_47
Potassium Filtered	mg/L	9.5	2.2	3.2	3.8	NT2_47
Sodium Filtered	mg/L	160	6.8	24	22	NT2_47

Dates

Date extracted		7-JAN-2021	7-JAN-2021	7-JAN-2021	7-JAN-2021	
Date analysed		7-JAN-2021	7-JAN-2021	7-JAN-2021	7-JAN-2021	

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Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method

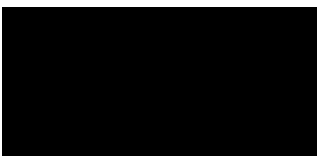
Miscellaneous

Chloride	mg/L	280	8.0	34	28	NW_D3_B14
Bicarbonate as CaCO3	mg/L	16	18	27	62	NW_B1
Carbonate as CaCO3	mg/L	< 5	< 5	< 5	< 5	NW_B1
Hydroxide as CaCO3	mg/L	< 5	< 5	< 5	< 5	NW_B1
Carbon - Dissolved Organic	mg/L	9.4	7.4	11	17	NW_S15

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Lab Reg No.		N21/000083	N21/000084	N21/000086	N21/000088	
Date Sampled		28-DEC-2020	29-DEC-2020	30-DEC-2020	31-DEC-2020	
	Units					Method
Miscellaneous						
Sulphate	mg/L	66	3.4	5.3	6.3	NW_D10_B14
Suspended Solids - Total	mg/L	51	57	95	3	NW_S13
Dates						
Date extracted		7-JAN-2021	7-JAN-2021	7-JAN-2021	7-JAN-2021	
Date analysed		7-JAN-2021	7-JAN-2021	7-JAN-2021	7-JAN-2021	



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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210105 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 05-JAN-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/000079	0874_QC200_201227	WATER 27/12/20
N21/000080	0874_QC201_201227	WATER 27/12/20
N21/000081	0874_QC202_201228	WATER 28/12/20
N21/000085	0874_QC206_201229	WATER 29/12/20

Lab Reg No.	Date Sampled	Units	N21/000079	N21/000080	N21/000081	N21/000085	Method
			27-DEC-2020	27-DEC-2020	28-DEC-2020	29-DEC-2020	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	<0.05	0.063	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	<0.02	0.12	<0.02	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	<0.01	0.32	0.015	0.021		NR70
PFHpA (375-85-9)	ug/L	<0.01	0.032	<0.01	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L	<0.01	0.086	<0.01	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	0.12	<0.01	0.014		NR70
PFHxS (355-46-4)	ug/L	<0.01	1.2	0.032	0.16		NR70
PFHpS (375-92-8)	ug/L	<0.01	0.063	<0.01	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L	<0.02	2.9	0.024	0.42		NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	<0.01	0.14	<0.01	0.016		NR70
PFOSA (754-91-6)	ug/L	<0.01	0.012	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.			N21/000079	N21/000080	N21/000081	N21/000085	
Date Sampled			27-DEC-2020	27-DEC-2020	28-DEC-2020	29-DEC-2020	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	0.012	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	104	107	103	108		NR70
PFPeA (Surrogate Recovery)	%	94	102	93	98		NR70
PFHxA (Surrogate Recovery)	%	92	99	95	104		NR70
PFHpA (Surrogate Recovery)	%	100	106	100	108		NR70
PFOA (Surrogate Recovery)	%	97	82	95	99		NR70
PFNA (Surrogate Recovery)	%	123	94	101	132		NR70
PFDA (Surrogate Recovery)	%	100	87	87	115		NR70
PFUdA (Surrogate Recovery)	%	97	67	74	93		NR70
PFDoA (Surrogate Recovery)	%	79	69	67	97		NR70
PFTeDA (Surrogate Recovery)	%	77	64	80	94		NR70
PFHxDA (Surrogate Recovery)	%	65	75	69	74		NR70
FOUEA (Surrogate Recovery)	%	62	56	58	58		NR70
PFBS (Surrogate Recovery)	%	94	103	101	99		NR70
PFHxS (Surrogate Recovery)	%	94	93	95	101		NR70
PFOS (Surrogate Recovery)	%	94	81	78	96		NR70
PFOSA (Surrogate Recovery)	%	75	54	58	81		NR70
N-MeFOSA (Surrogate Recovery)	%	44	42	40	41		NR70
N-EtFOSA (Surrogate Recovery)	%	47	54	44	45		NR70
N-MeFOSAA (Surrogate Recovery)	%	67	68	61	100		NR70
N-EtFOSAA (Surrogate Recovery)	%	69	54	62	69		NR70
N-MeFOSE (Surrogate Recovery)	%	58	47	68	60		NR70
N-EtFOSE (Surrogate Recovery)	%	52	68	49	44		NR70
4:2 FTS (Surrogate Recovery)	%	83	87	85	89		NR70
6:2 FTS (Surrogate Recovery)	%	90	88	89	89		NR70
8:2 FTS (Surrogate Recovery)	%	72	61	82	96		NR70
8:2 diPAP (Surrogate Recovery)	%	90	112	97	117		NR70
Dates							
Date extracted		11-JAN-2021	11-JAN-2021	11-JAN-2021	11-JAN-2021		
Date analysed		11-JAN-2021	11-JAN-2021	11-JAN-2021	11-JAN-2021		

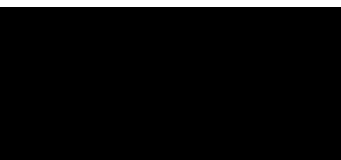
N21/000079
to
N21/000089

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210105 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 05-JAN-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/000087	0874_QC208_201230	WATER 30/12/20
N21/000089	0874_QC210_201231	WATER 31/12/20

Lab Reg No.	Date Sampled	Units	N21/000087 30-DEC-2020	N21/000089 31-DEC-2020	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	0.29	0.059		NR70
PFPeA (2706-90-3)	ug/L	0.36	0.078		NR70
PFHxA (307-24-4)	ug/L	1.1	0.36		NR70
PFHpA (375-85-9)	ug/L	0.080	0.040		NR70
PFOA (335-67-1)	ug/L	0.16	0.091		NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01		NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01		NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01		NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01		NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02		NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02		NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02		NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05		NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01		NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01		NR70
PFPeS (2706-91-4)	ug/L	0.47	0.15		NR70
PFHxS (355-46-4)	ug/L	3.9	1.3		NR70
PFHpS (375-92-8)	ug/L	0.21	0.071		NR70
PFOS (1763-23-1)	ug/L	11	2.6		NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01		NR70
PFBS (375-73-5)	ug/L	0.60	0.15		NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01		NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02		NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02		NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01		NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01		NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05		NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05		NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01		NR70

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Lab Reg No.			N21/000087	N21/000089		
Date Sampled			30-DEC-2020	31-DEC-2020		
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	115	109			NR70
PFPeA (Surrogate Recovery)	%	104	100			NR70
PFHxA (Surrogate Recovery)	%	114	99			NR70
PFHpA (Surrogate Recovery)	%	113	99			NR70
PFOA (Surrogate Recovery)	%	105	95			NR70
PFNA (Surrogate Recovery)	%	110	87			NR70
PFDA (Surrogate Recovery)	%	114	103			NR70
PFUdA (Surrogate Recovery)	%	93	96			NR70
PFDoA (Surrogate Recovery)	%	83	96			NR70
PFTeDA (Surrogate Recovery)	%	87	81			NR70
PFHxDA (Surrogate Recovery)	%	80	69			NR70
FOUEA (Surrogate Recovery)	%	66	75			NR70
PFBS (Surrogate Recovery)	%	115	108			NR70
PFHxS (Surrogate Recovery)	%	118	108			NR70
PFOS (Surrogate Recovery)	%	99	97			NR70
PFOSA (Surrogate Recovery)	%	78	80			NR70
N-MeFOSA (Surrogate Recovery)	%	47	56			NR70
N-EtFOSA (Surrogate Recovery)	%	74	76			NR70
N-MeFOSAA (Surrogate Recovery)	%	85	89			NR70
N-EtFOSAA (Surrogate Recovery)	%	80	73			NR70
N-MeFOSE (Surrogate Recovery)	%	55	55			NR70
N-EtFOSE (Surrogate Recovery)	%	93	53			NR70
4:2 FTS (Surrogate Recovery)	%	94	90			NR70
6:2 FTS (Surrogate Recovery)	%	101	95			NR70
8:2 FTS (Surrogate Recovery)	%	85	96			NR70
8:2 diPAP (Surrogate Recovery)	%	121	129			NR70
Dates						
Date extracted		11-JAN-2021	11-JAN-2021			
Date analysed		11-JAN-2021	11-JAN-2021			

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105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 www.measurement.gov.au

National Measurement Institute

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Report No. RN1300060

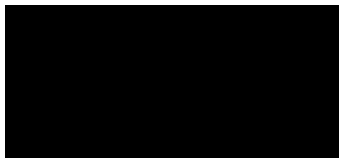
Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210105 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 05-JAN-2021 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N21/000082	0874_QC203_201227	WATER 27/12/20

Lab Reg No.			N21/000082			
Date Sampled			27-DEC-2020			
		Units				Method

Filtered Trace Elements by ICP						
Calcium Filtered	mg/L	15				NT2_47
Magnesium Filtered	mg/L	20				NT2_47
Potassium Filtered	mg/L	9.7				NT2_47
Sodium Filtered	mg/L	160				NT2_47

Dates						
Date extracted		7-JAN-2021				
Date analysed		7-JAN-2021				



Inorganics - NSW
 Accreditation No. 198

12-JAN-2021

Lab Reg No.			N21/000082			
Date Sampled			27-DEC-2020			
		Units				Method

Miscellaneous						
Chloride	mg/L	290				NW_D3_B14
Bicarbonate as CaCO3	mg/L	17				NW_B1
Carbonate as CaCO3	mg/L	< 5				NW_B1
Hydroxide as CaCO3	mg/L	< 5				NW_B1
Carbon - Dissolved Organic	mg/L	9.0				NW_S15
Sulphate	mg/L	68				NW_D10_B14
Suspended Solids - Total	mg/L	51				NW_S13

Dates						
Date extracted		7-JAN-2021				

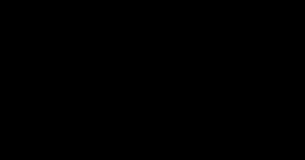
105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 www.measurement.gov.au

National Measurement Institute

REPORT OF ANALYSIS

Page: 11 of 11
Report No. RN1300060

Lab Reg No.			N21/000082				
Date Sampled			27-DEC-2020				
		Units					Method
Dates							
Date analysed			7-JAN-2021				



Inorganics - NSW
Accreditation No. 198

12-JAN-2021



Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1300001* *RN1300059*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/210105

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	73	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	89	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	92	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	86	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	92	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	84	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	87	NA
PFUdA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFDaA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFTrDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	87	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	94	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	118	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	113	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	93	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	91	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	88	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	85	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	85	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	81	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	82	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	99	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	108	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	94	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	80	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	96	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	110	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	121	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	94	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	92	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	95	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	86	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	84	NA

Results expressed in percentage (%) or ug/L wherever appropriate.

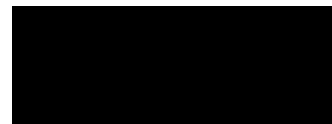
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
12/01/2021

Date:



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: **AECOM Pty Ltd**

NMI QA Report No: AECO06/210105 QA

Sample Matrix: Water

Analyte	Method	LOR	Blank	Duplicates			Recoveries	
		mg/L	mg/L	Sample mg/L	Duplicate mg/L	RPD %	Matrix spk %	LCS %
Waters Section				N21/000082			N21/000082	
Bicarbonate as CaCO ₃	NW_B1	5	<5	17	17	0.0	NA	90
Carbonate as CaCO ₃	NW_B1	5	<5	<5	<5	ND	NA	NA
Hydroxide as CaCO ₃	NW_B1	5	<5	<5	<5	ND	NA	NA
Carbon - Dissolved Organic	NW_S15	0.5	<0.5	9.0	8.9	1.1	112	112
Chloride	NW_D3_B14	0.1	<0.1	290	290	0.0	117	107
Sulphate	NW_D10_B14	0.1	<0.1	66	66	0.0	NA	87
Suspended Solids - Total	NW_S13	2	<2	51	51	0.0	NA	94

Filename = K:\Inorganics\WATER SECTION\TKN & NH₃\TKN NH₃ 2021\

Legend

Acceptable recovery is 80-120%.

Acceptable RPDs on duplicates is 30% at > 5 times LOR. Greater RPD may be expected at < 5 LOR.

LOR = Limit Of Reporting

ND = Not Determined

RPD = Relative Percent Difference

NA = Not Applicable

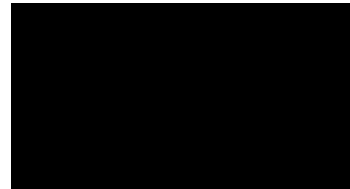
LCS = Laboratory Control Sample.

Comments

This report shall not be reproduced except in full.

Results greater than ten times LOR have been rounded to two significant figures.

Signed:



Inorganics Manager, NMI-North Ryde

Date:

12/01/2021



QUALITY ASSURANCE REPORT

Client: QUEENSLAND ALUMINA LTD

NMI QA Report No: AECO06/210105 T1

Sample Matrix: Water

Analyte	Method	LOR	Blank	Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
Inorganics Section				N21/000088			N21/000088	
Sodium Filtered	NT2.47	0.05ppm	<0.05ppm	24	23	4	99	98
Potassium Filtered	NT2.47	0.05ppm	<0.05ppm	4.2	4.2	0	99	100
Calcium Filtered	NT2.47	0.005ppm	<0.005ppm	3.8	3.8	0	96	103
Magnesium Filtered	NT2.47	0.005ppm	<0.005ppm	22	22	NA	97	102

Filename = N:\North Ryde\Data\Inorganics\Reporting\Water\Water 2021\CSV Upload\

Legend:

Acceptable recovery is 75-120%.

Acceptable RPDs on duplicates is 44% at concentrations >5 times LOR. Greater RPD may be expected at <5 times LOR.

LOR = Limit Of Reporting

ND = Not Determined

RPD = Relative Percent Difference

NA = Not Applicable

LCS = Laboratory Control Sample.

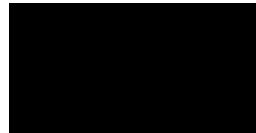
#: Spike level is less than 50% of the sample's concentration, hence the recovery data cannot be reported.

Comments:

Results greater than ten times LOR have been rounded to two significant figures.

This report shall not be reproduced except in full.

Signed:



Date:

Inorganics, NMI-North Ryde
12/01/2021



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/210105

Total No. of Samples: 11

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/000079	12-JAN-2021	0874_QC200_201227	WATER 27/12/20
N21/000080	12-JAN-2021	0874_QC201_201227	WATER 27/12/20
N21/000081	12-JAN-2021	0874_QC202_201228	WATER 28/12/20
N21/000082	12-JAN-2021	0874_QC203_201227	WATER 27/12/20
N21/000083	12-JAN-2021	0874_QC204_201228	WATER 28/12/20
N21/000084	12-JAN-2021	0874_QC205_201229	WATER 29/12/20
N21/000085	12-JAN-2021	0874_QC206_201229	WATER 29/12/20
N21/000086	12-JAN-2021	0874_QC207_201230	WATER 30/12/20
N21/000087	12-JAN-2021	0874_QC208_201230	WATER 30/12/20
N21/000088	12-JAN-2021	0874_QC209_201231	WATER 31/12/20
N21/000089	12-JAN-2021	0874_QC210_201231	WATER 31/12/20

SAMPLE RECEIVED CONDITION

Date samples received: 5-JAN-2021

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487_21

Temperature of samples: Chilled

Comments: ALL OK

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>

Appendix F

Calibration Certificates



Calibration Certificate



This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 16-Nov-2020
 Calibration Date: 16-Nov-2020
 Next Calibration Due: 16-Nov-2021

Call ID / Order No: 246888
 Job No / Pack No: S2468880001

Customer:	AECOM Australia Pty Ltd (Townsville)-ID	Serial No:	18K102334
Description:	407250 Xylem ProDSS Handheld, No GPS		

Calibration Summary

Frequency: 1 Years **Temp:** 24.2°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2468880001

<u>Desc</u>	<u>As Found</u>		<u>As Left (Cal Status)</u>	
	<u>Actual</u>	<u>Result</u>	<u>Actual</u>	<u>Result</u>
PH4 (4.00)	3.91	Pass	4.0	Pass
PH7 (7.01)	6.85	Pass	7.01	Pass
Cond (2707uS/cm)	2773.0	Fail	2707.0	Pass
DO (0.0%)	0.0	Pass	0.0	Pass
Turbidity (100NTU)	110.73	Fail	99.42	Pass
ORP (231.9mV)	277.3	Fail	231.7	Pass

<u>Equip ID</u>	<u>Standard Used Description</u>	<u>Valid Until</u>	<u>Cert</u>
-----------------	----------------------------------	--------------------	-------------

Completed By:

Signed:

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF TSV	Project Number:	60612487-2.1
Project Location:	RAAF TSV	Client:	DEPT DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	YSI
Make and Model:	YSI PRODS5
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	27.12.20				
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:	4	7	2760	99.4 99.4	CAL SOLUTION
Calibration Reading:	3.35	6.58	2751	99.0	UNAVAILABLE
Calibration Temperature:	25.4	25.7	25.7	25.6	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION- CALIBRATE

Date and Time:	28/12/2020				
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:	4	7	2760	99.5	
Bump Test Reading:	4.01	7.00	2823	100.2	
Bump Test Temperature:	26.2	26.2	26.3	26.3	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 27/12/2020
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF TSU	Project Number:	60612487-2.1
Project Location:	RAAF Base TSU	Client:	DEPT OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	YSI
Make and Model:	YSI 60055
Serial Number:	18K

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	29/12/2020 0730.				
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:	4	7	2700	99.2	CALIBRATION SOLUTION
Calibration Reading:	4.5	7.55	2744	99.1	NOT AVAILABLE
Calibration Temperature:	24.5	24.6	24.6	27.3	

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 29/12/2020 _____
 _____ Date _____

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	Debrae DEW OMP		Project Number:	60612487	
Project Location:	RAPE TOWNVILLE		Client:	Dept. of Debrae	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:					
Make and Model:					
Serial Number:					
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	30.12.20		0800		
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:	4.01	7.00	2760	99.0	
Calibration Reading:	3.98	6.94	2833	98.7	
Calibration Temperature:	25.7	25.7	25.7	28.2	
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION CALIBRATION					
Date and Time:	31.12.20				
Parameter	Acidity		Conductivity	Dissolved Oxygen	ORP
Units	pH	pH	µS/cm	%	
Calibration Standard Concentration:	7.00	4.01	2760	99.1	
Bump Test Reading:	7.00	4.01	2728	99.2	
Bump Test Temperature:	25.1	25.3	25.3	27.4	
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
_____ Fieldwork Staff Signature			_____ 31.12.20 Date		
Distribution: Project Central File					

Rainfall Event Sampling Factual Report, February 2021

PFAS OMP - RAAF Base Townsville

AECOM

PFAS Ongoing Monitoring Program - RAAF Base Townsville
Rainfall Event Sampling Factual Report, February 2021 – PFAS OMP - RAAF Base
Townsville
Commercial-in-Confidence

Rainfall Event Sampling Factual Report, February 2021

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Level 5, 7 Tomlins Street, South Townsville Qld 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

18-May-2021

Job No.: 60612487

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document Rainfall Event Sampling Factual Report, February 2021

Ref 60612487

Date 18-May-2021

Prepared by [REDACTED]

Reviewed by [REDACTED]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	05-Mar-2021	Draft for Review	[REDACTED]	
B	28-Apr-2021	Draft for Review	[REDACTED]	
C	13-May-2021	Draft for Review	[REDACTED]	
0	18-May-2021	Final for Issue	[REDACTED]	[REDACTED]

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1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Program (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019a) at the Royal Australian Airforce (RAAF) Base Townsville (the 'Base') located in the North Queensland Region. The Management Area as defined in the PMAP is the Base boundary as shown in **Figure 1** in **Appendix A**. The Monitoring Area includes areas on-Base and off-Base.

The OMP for Townsville (Defence, 2019a) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of five consecutive days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP, AECOM, 2020) provides details of the sampling events.

A rainfall sampling event was triggered in February 2021 following 61 mm rainfall recorded at the Townsville Aero (station 032040; BOM, 2021) on 9 February 2021. This sampling event factual report has been prepared to report the results of the February 2021 rainfall event, specifically highlighting first-time detections and/or first-time exceedances of human health screening criteria for perfluorohexane sulfonic acid (PFHxS)+perfluorooctane sulfonate (PFOS) and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *Defence (2020) PFAS OMP factual reports – guidance for preparation*, March 2020 (Defence, 2020).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP; and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the scope of works for the February 2021 rainfall event sampling in accordance with the SAQP(AECOM,2020).

2.0 Scope of Work

The sampling event at RAAF Base Townsville was completed in general accordance with the SAQP (AECOM, 2020). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP) (HEPA, 2020);
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013);
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b);
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018); and
 - Relevant State regulatory guidelines.
- Collection of surface water samples at 19 locations including nine on-Base and ten off-Base locations, daily for five consecutive days (refer to **Figure 2**, **Appendix A** and **Table 1** below).
- Analysis of all surface water samples for the PFAS suite at the standard limit of reporting (LOR).
- Analysis of 20% of surface water samples for major cations (sodium, calcium, magnesium and potassium) and anions (chloride, sulphate, bicarbonate, carbonate), total suspended solids (TSS) and dissolved organic carbon (DOC).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite and 1 in 20 primary samples to be analysed for the additional analysis listed in the point above, one rinsate sample per fieldwork day, and one trip blank per sample esky.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Surface Water Catchments and Sampling Locations

Catchment	Location ID	
	On-Base	Off-Base
Bohle River / Louisa Creek / Townsville Town Common	SW016, SW112, SW123, SW125, SW131	SW014, SW017, SW127*, SW129*
Mundy Creek	SW010, SW121*, SW132	SW108, SW109, SW115, SW116*, SW117, SW118
Three Mile Creek	SW102	

*denotes samples analysed for non-PFAS suite. As no locations were specified for non-PFAS suite in the SAQP for this sampling event, locations selected for the additional analysis suite were spread across the catchments, targeting major flow paths both upstream and downstream of the Base.

3.0 Methodology

3.1 Surface Water Sampling Methodology

The methodology used for the February 2021 rainfall event sampling was in accordance with the SAQP (AECOM, 2020) and is summarised in **Table 2** below.

Table 2 Surface Water Sampling Methodology

Item	Details
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all surface water samples and are presented in Table T1 in Appendix B . Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling methodology	Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where bottles could not be lowered into the water column directly, a sampling pole with a decontaminated stainless-steel cup was used to retrieve the sample and transfer the water into the laboratory-supplied container.
Sample analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. Additionally, approximately 20% of selected primary samples were submitted for major ions, TSS and DOC. ALS Brisbane, Queensland was used as the primary laboratory. NMI of Sydney, NSW was used as the secondary laboratory. Chain of Custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), trip blanks, and rinsate samples. Refer to Appendix C for assessment of QA/QC sample data.

3.2 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019 (NHMRC 2019).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM).

In accordance with the PMAP (Defence, 2019a) and SAQP (AECOM, 2020), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 3** below.

Table 3 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Recreational use – surface water	PFOS+PFHxS	2 µg/L	The values are from NHMRC (2019).
	PFOA ²	10 µg/L	<i>All surface water results were compared to these criteria.</i>
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2020 (HEPA, 2020).
	PFOA	220 µg/L	<i>All surface water results were compared to these criteria.</i>

3.3 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2020).

Data validation assessment is provided in **Appendix C**.

Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2019) Annex L requirements.

3.4 Deviations from the SAQP

Table 4 lists the deviations from the SAQP (AECOM, 2020) during this sampling round.

Table 4 Deviations from the SAQP during February 2021 Rainfall Sampling Event

SAQP	February 2021 Rainfall Sampling Event	Impact of Deviation
Locations will be sampled daily for five consecutive days.	Location SW016 was unable to be sampled on the third day (11/02/2021) due to conflict with base activities. Access was not granted by air traffic control on this date and the location was not sampled.	Concentrations of PFAS compounds at SW016 were highest on the second day of sampling. All samples collected at this location were above the 95% species protection guideline for freshwater and marine ecosystems. This is consistent with all but two on-Base surface water sampling locations. It is considered that the collection of a surface water sample at this location on 11/02/2021, on the third day of the sampling program, would be unlikely to affect the interpretation of the data.

4.0 Field Observations and Results

The February 2021 rainfall event sampling was completed between 9 February and 13 February 2021. This sampling event was triggered by the report of 61.2 mm of rainfall at Townsville Aero (station 032040) on 9 February 2021. **Plate 1** below shows the daily rainfall received at Townsville Aero the week preceding the sampling event and for the duration of the sampling.

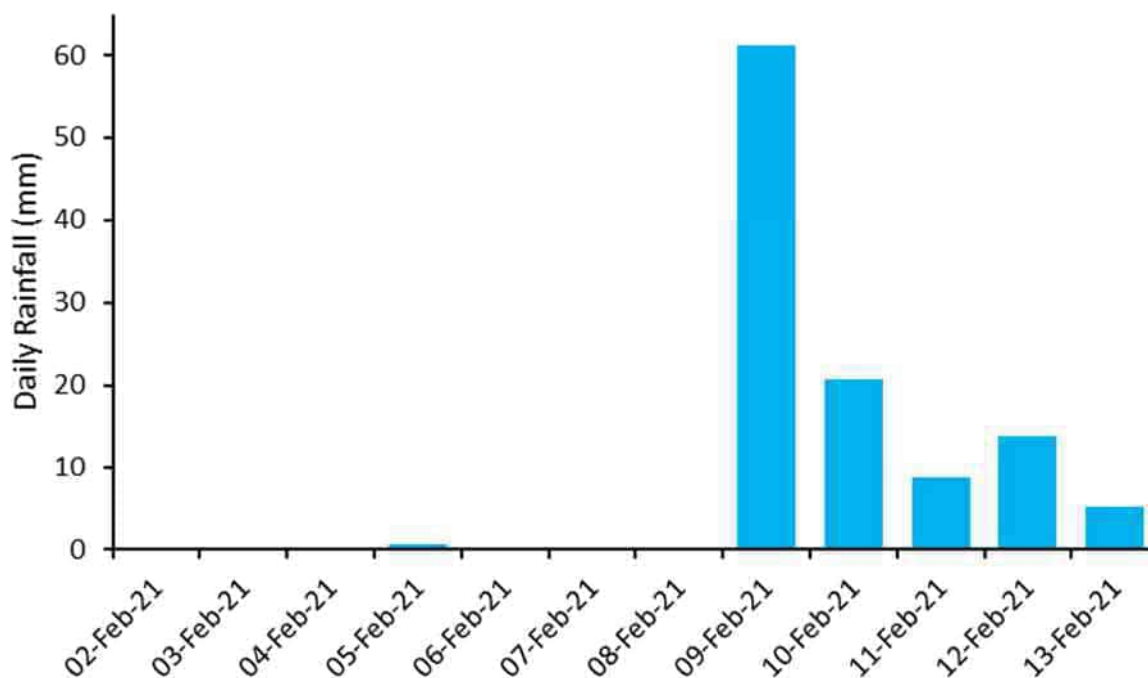


Plate 1 Daily recorded rainfall at Townsville Aero (station 032040) 2 February to 13 February 2021

The results of the sampling event are summarised in the following sections.

4.1 Surface Water Observations and Field Measurements

Table 5 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water sampling locations were accessible and sampled for this monitoring event, with the exception of SW016 which was unable to be sampled on one day (11/02/2021) due to conflict with Base activities. Access was not granted by air traffic control on this date.
Field Observations	<p>Hydrocarbon sheen as the result of fuel or oil was noted at SW017 across the five-day sampling event. This sampling location is immediately downstream of a main road and it is considered likely that this hydrocarbon sheen is related to surface water runoff from the road.</p> <p>A biosheen was noted at SW014, SW102, SW116, SW117, SW121, SW125, SW129 and SW131 on one or more days during the sampling event. No other visual indications of contamination were observed during the sampling of the other surface water sampling locations.</p> <p>Surface water from six locations (SW014, SW102, SW112, SW115, SW125 and SW127) had an organic odour, four locations (SW102, SW010, SW117 and SW131) had a sulfurous odour and one location (SW108) had a weak compost odour.</p> <p>Field observations are presented in Table T1 in Appendix B.</p>

Item	Observations
Geochemical Parameters	<p>Surface water geochemical parameters were measured prior to collecting surface water samples. The readings are presented in Table T1 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> DO ranged from 1.63 mg/L (0874_SW127_210213) to 13.93 mg/L (0874_SW132_210213) indicating a range between moderately and well oxygenated conditions. EC ranged from 88 µS/cm (0874_SW121_210211) to 49,888 µS/cm (0874_SW109_210211) indicating fresh to saline conditions. pH ranged from 6.53 (0874_SW125_210209) to 10.35 (0874_SW118_210209) pH results generally indicated near neutral to alkaline conditions. ORP ranged from -125.4 mV (0874_SW131_210210) to 199.3 mV (0874_SW117_210213) indicating moderately to strongly reducing conditions. Temperature ranged from 25.3°C (0874_SW117_210213) to 35.4°C (0874_SW132_210213).
Weather Conditions	<p>Weather was raining at times and overcast during sampling. Heavy rain was experienced on 10/02/2021 during sampling of SW117 and on 11/02/2021 during sampling of SW118. Light rain was experienced on 10/02/2021 during sampling of SW118, on 11/02/2021 during sampling of SW117, SW127 and SW129, and on 12/02/2021 during sampling of SW014, SW016, SW017, SW115, SW116, SW117 and SW118.</p> <p>The daily rainfall totals recorded by the Bureau of Meteorology at the Townsville Aero Weather Station for the sampling event were, 61.2 mm (09/02/2021), 20.8 mm (10/02/2021), 8.6 mm (11/02/2021), 13.8 mm (12/02/2021) and 5.2 mm (13/02/2021) (BOM, 2021).</p>
Estate Management Works or Training Activities	<p>No remediation, construction activities were underway during the sampling event.</p> <p>Helicopter pilot training was being undertaken at Pad West during the sampling event. This prohibited access to SW016 on 11/02/2021. Arrangements were made with air traffic control to deconflict with this training and ensure access was available in the days following.</p>

4.2 PFAS Surface Water Analytical Results

Of the 94 surface water samples analysed, 85 samples reported PFAS concentrations above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T2** in **Appendix B**. Sixty-five samples exceeded the adopted ecological guideline for PFOS and 36 samples exceeded the recreational use guideline for PFOS+PFHxS for surface water (**Table T2, Appendix B**).

PFOA concentrations in surface water did not exceed the adopted ecological guideline or human health recreational water guidelines.

There were no first-time detections of PFOS+PFHxS, PFOS or PFOA, or first-time exceedances of guideline values in surface water samples.

4.3 Non-PFAS Surface Water Analytical Results

The non-PFAS surface water analytical results from this sampling event are presented in **Table T3** in **Appendix B** and summarised below:

- Dissolved organic carbon ranged from 5 mg/L (0874_SW116_210210) to 24 mg/L (0874_SW121_210210)
- Total suspended solids ranged from < 5 mg/L (0874_SW121_210211 and 0874_SW127_210212) to 82 mg/L (0874_SW129_210211)
- Chloride ranged from 13 mg/L (0874_SW127_210211) and 14,100 mg/L (0874_SW116_210210)
- Sulfate ranged from 1 mg/L (0874_SW127_210211) and 2010 mg/L (0874_SW116_210210)

- Bicarbonate ranged from 11 mg/L (0874_SW127_210211) to 122 mg/L (0874_SW116_210211)
- Carbonate as CaCO₃ was below the laboratory LOR (1 mg/L) in all samples
- Calcium ranged from 3 mg/L (0874_SW127_210211) to 333 mg/L (0874_SW116_210210)
- Magnesium ranged from < 1 mg/L (0874_SW127_210211) to 1,030 mg/L (0874_SW116_210210)
- Sodium ranged from 9 mg/L (0874_SW127_210211) to 8,530 mg/L (0874_SW116_210210)
- Potassium ranged from 1 mg/L (0874_SW127_210212) to 311 mg/L (0874_SW116_210210).

5.0 Summary and Next Sampling Event

5.1 Summary of Rainfall Event

A surface water sampling event was triggered by the occurrence of 61 mm rainfall on 9 February 2021. The sampling event was conducted on and off-Base for RAAF Base Townsville between 9 and 13 February 2021. The event included sampling of 19 surface water locations daily for five consecutive days, with the exception of SW016 which was not sampled on 11 Feb 2021 as detailed below. **Table 6** summarises the findings of the February 2021 sampling event and the recommended actions.

Table 6 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Sediment/ Surface Water:</u> Access to sampling locations	All 19 locations were accessed daily from 9 February to 13 February with the exception of SW016. Access to location SW016 was prohibited by air traffic control due to conflict with Base activities on 11 February 2021. This location was not sampled on this date.	Ongoing monitoring in accordance with the OMP.
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 85 of the 94 surface water samples analysed.	Ongoing monitoring in accordance with the OMP.
First-time detections and exceedances of Sum of PFOS+PFHxS, PFOS or PFOA	There were no first-time detections of PFOS+PFHxS, PFOS or PFOA, or first-time exceedances of guideline values in surface water samples	No actions recommended.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April 2021.

The 2022 Rainfall Sampling Event will be performed in 2022, once the appropriate rainfall trigger levels are met (refer to **Section 2.0**).

5.3 Upcoming Annual Interpretive Report

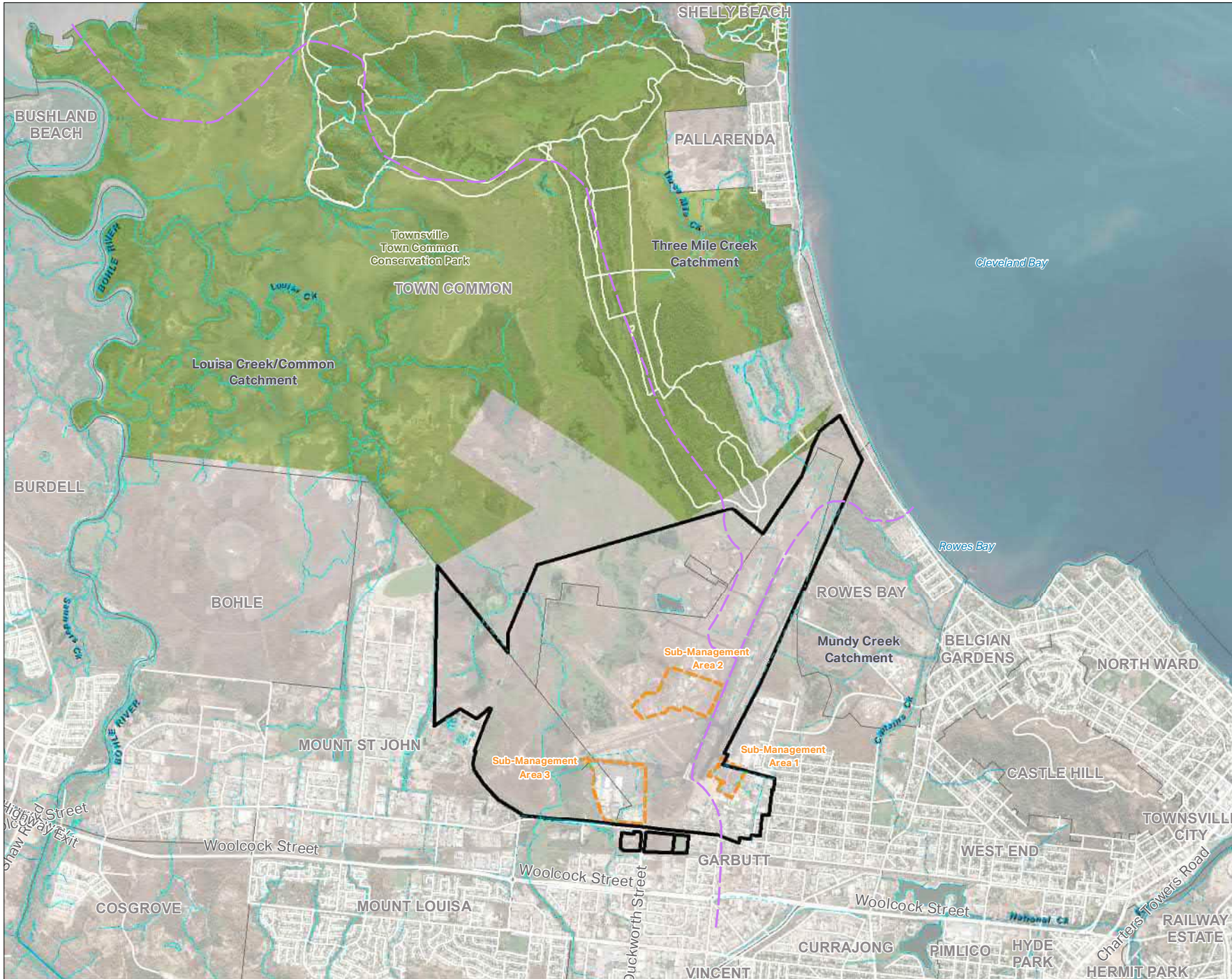
The next annual interpretative report is scheduled for December 2021.

6.0 References

- AECOM. (2020). *PFAS OMP RAAF Base Townsville Sampling and Analysis Quality Plan, Draft Rev 0, 26 March 2020*.
- Australian and New Zealand Governments and Australian state and territory governments [ANZG]. (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
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- Department of Defence (2019a). *PFAS Management Area Plan - RAAF Townsville*.
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- Department of Defence (2018). *Defence Contamination Management Manual*. Amended August 2019.
- Department of Defence (2020). *OMP Annual Interpretive Report Guidance*. PFAS Investigation and Management Branch. Version 0.1, July 2020
- Department of Health (2019). *Health Based Guidance Values for PFAS for use in site investigations in Australia*, updated September 2019.
- Heads of Environmental Protection Agencies (HEPA) (2020). *PFAS National Environmental Management Plan (NEMP), version 2.0 – January 2020*.
- National Environment Protection Council [NEPC] (1999, as amended May 2013). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B2: Guideline on Site Characterisation*.
- National Health and Medical Research Council (NHMRC) (2019). *Guidance on PFAS in Recreational Water*.

Appendix A

Figures



AECOM



Legend

- Management Area
- Sub-Management Area
- Major Watercourse
- Minor Watercourse
- Major Culvert
- Minor Culvert
- Canal line
- Catchment boundaries

FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
Rainfall Event Sampling,
February 2021

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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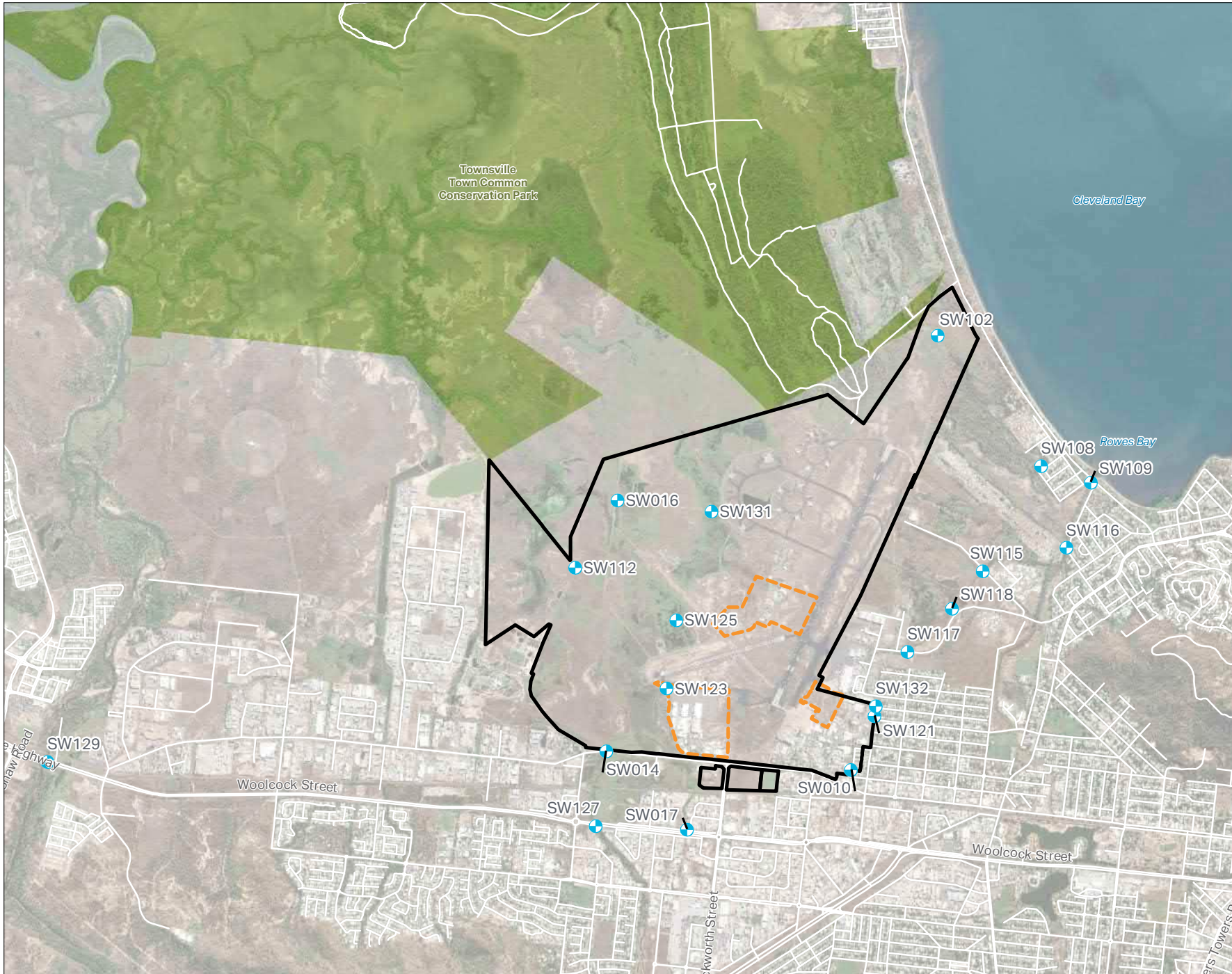
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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management
- Sub-Management Area
- Surface Water Sample Location



**FIGURE 2:
SURFACE WATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
Rainfall Event Sampling,
February 2021

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Appendix B

Analytical Tables

Location Code	Sample ID	Sample Date	DO mg/L	DO %	EC µS/cm	pH	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Comment
SW010	0874_SW010_210209	9/02/2021	2.04	26	431.4	7.05	-23.9	28.8	3.29	Yellowish brown	No odour	No sheen	
	0874_SW010_210210	10/02/2021	3.44	46	389.7	7.35	24.8	29.9	7.29	Yellowish brown	No odour	No sheen	
	0874_SW010_210211	11/02/2021	4.94	58.2	505	7.18	117.9	27.8	34.02	Brown	No odour	No sheen	
	0874_SW010_210212	12/02/2021	5.29	67	467.5	7.22	72.5	27.3	14.19	Yellowish brown	No odour	No sheen	
	0874_SW010_210213	13/02/2021	3.39	43	541	7.62	-15.9	28.9	3.95	Pale yellow	Weak sulfurous odour	No sheen	
SW014	0874_SW014_210209	9/02/2021	2.48	33	205.3	6.76	118.2	28.1	28.5	Brown	No odour	No sheen	
	0874_SW014_210210	10/02/2021	-	-	385.4	7.16	93.7	29.1	7.17	Light olive brown	No odour	No sheen	
	0874_SW014_210211	11/02/2021	2.4	30	428.1	6.83	-46.6	27.2	7.17	Light olive brown	No odour	Biosheen Appearance	
	0874_SW014_210212	12/02/2021	3.01	38.6	377.8	7.34	97.1	27.5	12.9	Pale yellow	Slight Organic Odour	No sheen	
	0874_SW014_210213	13/02/2021	2.08	26.7	518	7.17	36.1	27.8	13.02	Pale yellow	Slight Organic Odour	Biosheen Appearance	
SW016	0874_SW016_210209	9/02/2021	8.93	121.7	385.8	8.53	117.7	31.7	133.82	Yellowish brown	No odour	No sheen	Biota in sample (small water insects)
	0874_SW016_210210	10/02/2021	2.76	35.5	1052	6.93	84	28.4	8.47	Yellowish brown	No odour	No sheen	
	0874_SW016_210212	12/02/2021	8	98.4	339.1	7.32	172	25.9	12.11	Dark reddish brown	No odour	No sheen	
	0874_SW016_210213	13/02/2021	5.45	73	374.1	7.22	105.5	31.4	9.51	Brown	No odour	No sheen	
SW017	0874_SW017_210209	9/02/2021	5.95	77.7	255.9	7.02	137.7	29.2	10.51	Light olive brown	No odour	Slight oil sheen	
	0874_SW017_210210	10/02/2021	5.31	68.9	216.9	7.37	99.6	28.9	25.6	Dark olive brown	No odour	Slight oil sheen	
	0874_SW017_210211	11/02/2021	6.56	82.2	279.3	7.56	92.6	26.9	83.09	Brown	No odour	Oil sheen	
	0874_SW017_210212	12/02/2021	5.11	62.6	518	7.33	104.4	27.6	20.53	Light olive brown	No odour	Slight oil sheen	
	0874_SW017_210213	13/02/2021	4.27	54.1	383.3	7.28	95.4	28.9	13.73	Light olive brown	No odour	Slight oil sheen	
SW102	0874_SW102_210209	9/02/2021	4.94	66.3	729	7.18	147.5	30.8	59.8	Light olive brown	No odour	No sheen	
	0874_SW102_210210	10/02/2021	3.26	41.5	727	6.65	52.3	27.8	13.63	Dark olive brown	Weak sulfurous odour	No sheen	
	0874_SW102_210211	11/02/2021	6.54	82.5	1066	7.1	62.9	27.6	7.5	Yellowish red	Slight Organic Odour	No sheen	Pump on
	0874_SW102_210212	12/02/2021	2.72	30.8	1198	6.86	45.4	25.4	5.31	Yellowish red	No odour	Biosheen Appearance	Pump on
	0874_SW102_210213	13/02/2021	3.7	49.7	2350	6.96	45.1	30	12.1	Yellowish brown	Slight Organic Odour	Biosheen Appearance	
SW108	0874_SW108_210209	9/02/2021	6.17	85.8	7649	8.8	80.2	32.9	9.73	Yellowish brown	No odour	No sheen	
	0874_SW108_210210	10/02/2021	4.21	54	6338	7.61	137.7	28.2	6.59	Dark reddish brown	Weak compost odour	No sheen	
	0874_SW108_210211	11/02/2021	4.99	63.7	5522	7.6	106.7	27.9	12.11	Dark reddish brown	No odour	No sheen	
	0874_SW108_210212	12/02/2021	8.33	109.6	3749	7.66	138.5	29	10.69	Dark reddish brown	No odour	No sheen	
	0874_SW108_210213	13/02/2021	3.21	40.9	1855	7.18	154.7	26.9	9.88	Yellowish brown	No odour	No sheen	
SW109	0874_SW109_210209	9/02/2021	5.72	76.8	4157	8.24	100.8	30.8	33.8	Light olive brown	No odour	No sheen	Outgoing (low) tide
	0874_SW109_210210	10/02/2021	5.79	75.6	49429	8	162.3	29.2	26.66	Light olive brown	No odour	No sheen	Incoming (high) tide
	0874_SW109_210211	11/02/2021	6.37	81.8	49888	8.01	138	28.3	11.95	Yellowish brown	No odour	No sheen	Outgoing tide
	0874_SW109_210212	12/02/2021	7.29	94.5	7006	7.32	152.1	27.6	34.87	Light olive brown	No odour	No sheen	Outgoing tide
	0874_SW109_210213	13/02/2021	5.82	77.3	23494	7.32	196.8	26.5	13.97	Yellowish brown	No odour	No sheen	Incoming tide
SW112	0874_SW112_210209	9/02/2021	7.83	106	1165	8.43	102.1	31.3	1.61	Light olive brown	No odour	No sheen	
	0874_SW112_210210	10/02/2021	7.11	95.9	992	7.52	80.1	31.1	0.46	Light olive brown	No odour	No sheen	
	0874_SW112_210211	11/02/2021	7.4	98.1	1051	7.66	102.8	30	0.64	Pale yellow	No odour	No sheen	
	0874_SW112_210212	12/02/2021	8.1	105.5	1084	7.66	86.2	29.8	2.88	Pale yellow	No odour	No sheen	
	0874_SW112_210213	13/02/2021	7.35	96.9	1095	7.59	132.8	29.9	1.02	Yellowish brown	Slight Organic Odour	No sheen	
SW115	0874_SW115_210209	9/02/2021	5.122	68.3	1166	6.85	179.4	30.4	26.48	Light olive brown	No odour	No sheen	
	0874_SW115_210210	10/02/2021	5.21	65.9	21506	7.2	193	27.4	37.2	Light olive brown	No odour	No sheen	
	0874_SW115_210211	11/02/2021	5.45	68.3	4505	7.08	142.6	26.9	13.96	Yellowish brown	No odour	No sheen	
	0874_SW115_210212	12/02/2021	6.86	88.2	3117	7.26	144.9	27.7	28.45	Brown	No odour	No sheen	
	0874_SW115_210213	13/02/2021	5.39	67.5	2769	7.09	144.7	25.9	30.13	Yellowish brown	Slight Organic Odour	No sheen	
SW116	0874_SW116_210209	9/02/2021	5.34	71.3	1180	7.32	137.8	30.5	27.42	Light olive brown	No odour	No sheen	
	0874_SW116_210210	10/02/2021	5.65	73	41585	7.86	173.8	28.6	13.28	Light olive brown	No odour	No sheen	
	0874_SW116_210211	11/02/2021	6.51	82.3	16770	7.64	145.4	27.4	8.7	Yellowish brown	No odour	Biosheen Appearance	
	0874_SW116_210212	12/02/2021	6.94	89.5	3528	7.24	117.5	27.8	23.69	Yellow	No odour	No sheen	
	0874_SW116_210213	13/02/2021	5.17	64.3	2051	7.06	139.2	26.4	23.17	Yellowish brown	No odour	Biosheen Appearance	
SW117	0874_SW117_210209	9/02/2021	9.94	136.8	1182	8.9	115.2	32.3	12.68	Yellowish brown	No odour	No sheen	
	0874_SW117_210210	10/02/2021	6.43	79.9	694	7.46	185.9	26.4	10.05	Light olive brown	No odour	Biosheen Appearance	
	0874_SW117_210211	11/02/2021	8.33	104.3	1435	8.13	61.5	26.7	11.61	Yellow	No odour	Biosheen Appearance	
	0874_SW117_210212	12/02/2021	10.98	145	515	9.2	51.7	29	10.08	Pale yellow	No odour	No sheen	
	0874_SW117_210213	13/02/2021	3.04	38.3	1328	7.35	199.3	25.3	8.59	Pale yellow	Weak sulfurous odour	No sheen	
SW118	0874_SW118_210209	9/02/2021	4.98	66.8	302.6	10.35	-27.3	30.8	19.07	Light olive brown	No odour	No sheen	
	0874_SW118_210210	10/02/2021	4.15	51.8	1747	6.76	191.7	26.7	16.22	Light olive brown	No odour	No sheen	
	0874_SW118_210211	11/02/2021	6.37	80.2	4538	7.2	128.2	26.6	9.99	Yellow	No odour	No sheen	
	0874_SW118_210212	12/02/2021	7.68	97.2	566	8.17	99	27.6	15.39	Pale yellow	No odour	No sheen	
	0874_SW118_210213	13/02/2021	4.56	54	1552	7.33	190.4	25.3	12.82	Yellowish brown	No odour	No sheen	
SW121	0874_SW121_210209	9/02/2021	2.44	32.7	338.8	6.86	102.4	30.7	153.84	Light olive brown	No odour	No sheen	
	0874_SW121_210210	10/02/2021	5.07	70.6	334.6	7.17	89.4	33	11.82	Light olive brown	No odour	No sheen	
	0874_SW121_210211	11/02/2021	5.27	67.5	88	6.94	123.3	28.4	6.38	Yellow	No odour	No sheen	
	0874_SW121_210212	12/02/2021	6.83	89.9	114.5	7.22	59.8	29.6	4.14	Pale yellow	No odour	No sheen	
	0874_SW121_210213	13/02/2021	11.47	154.1	446.9	7.22	122.8	31	4.91	Pale yellow	No odour	Biosheen Appearance	
SW123	0874_SW123_210209	9/02/2021	6.91	93.7	398.9	7.2	135.8	31.4	7.38	Yellowish brown	No odour	No sheen	
	0874_SW123_210210	10/02/2021	5.98	79.7	325.6	7.66	69.8	30.4	12.22	Light olive brown	No odour	No sheen	
	0874_SW123_210211	11/02/2021	7.77	100.1	130.5	7.57	121.6	28.2	26.64	Yellowish brown	No odour	No sheen	
	0874_SW123_210212	12/02/2021	5.57	70.9	173.3	7.3	68	27	10.07	Pale yellow	No odour	No sheen	
	0874_SW123_210213	13/02/2021	8.81	122.5	392.4	7.74	76.4	32.9	12.72	Light olive brown	No odour	No sheen	

Location Code	Sample ID	Sample Date	DO mg/L	DO %	EC µS/cm	pH -	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Comment
SW125	0874_SW125_210209	9/02/2021	3.86	50.8	1644	6.53	155.9	29.7	14.87	Light olive brown	No odour	No sheen	
	0874_SW125_210210	10/02/2021	6.57	88.3	1450	7.07	84.8	30.9	7.09	Light olive brown	No odour	No sheen	
	0874_SW125_210211	11/02/2021	8.6	111.8	371.3	7.39	122.8	28.8	24.37	Yellow	No odour	No sheen	
	0874_SW125_210212	12/02/2021	7.1	88.4	540	7.09	66.3	26.6	5.3	Yellowish brown	Slight Organic Odour	Biosheen Appearance	
	0874_SW125_210213	13/02/2021	10.63	148.2	1190	7.82	54.6	32.6	12.47	Yellowish brown	Slight Organic Odour	No sheen	
SW127	0874_SW127_210209	9/02/2021	3.8	48.7	152.6	6.76	146.9	28.2	20.07	Light olive brown	No odour	No sheen	
	0874_SW127_210210	10/02/2021	3.2	41.7	320.2	6.96	116.3	29.1	6.8	Light olive brown	No odour	No sheen	
	0874_SW127_210211	11/02/2021	7.65	95.7	147.1	7.81	83.9	26.8	27.62	Pale yellow	No odour	No sheen	
	0874_SW127_210212	12/02/2021	2.89	37.6	283.9	6.86	97	28.4	2.71	Pale yellow	No odour	No sheen	
	0874_SW127_210213	13/02/2021	1.63	21	537	7.01	58.7	27.9	7.2	Pale yellow	Slight Organic Odour	No sheen	
SW129	0874_SW129_210209	9/02/2021	7.4	95.1	141.9	7.13	150.6	28.3	100.3	Light olive brown	No odour	No sheen	
	0874_SW129_210210	10/02/2021	5.97	79.4	192.1	7.38	97.7	30.3	66.97	Yellowish brown	No odour	No sheen	
	0874_SW129_210211	11/02/2021	6.07	76.8	993	7.19	135.6	27.9	59.01	Brown	No odour	No sheen	RoadTek workers on other side of the road.
	0874_SW129_210212	12/02/2021	6.98	88.4	309.4	7.39	90.3	27.5	55.54	Pale yellow	No odour	Biosheen Appearance	
	0874_SW129_210213	13/02/2021	6.98	88.3	246.8	7.65	98.1	27.5	37.78	Yellowish brown	No odour	No sheen	
SW131	0874_SW131_210209	9/02/2021	2.52	32.3	789	6.59	-102.1	28.2	8.24	Olive yellow	Distinct sulfurous odour	Biosheen Appearance	
	0874_SW131_210210	10/02/2021	2.33	29.1	1306	6.78	-125.4	26.8	9.26	Yellowish brown	Strong sulfurous odour	No sheen	
	0874_SW131_210211	11/02/2021	2.93	35.1	883	6.85	-59.6	27.4	13.31	Dark reddish brown	Strong sulfurous odour	Biosheen Appearance	
	0874_SW131_210212	12/02/2021	3.84	42.9	902	6.82	-36	26.1	14.39	Light olive brown	Very strong sulfurous odour	Biosheen Appearance	
	0874_SW131_210213	13/02/2021	2.31	30.2	866	6.82	-53	29.3	13.1	Dark reddish brown	Very strong sulfurous odour	No sheen	
SW132	0874_SW132_210209	9/02/2021	10.72	140.9	1084	8.2	54.7	29.6	15.32	Pale yellow	No odour	No sheen	
	0874_SW132_210210	10/02/2021	10.44	143.2	817	9.17	58.2	32.1	14.92	Light olive brown	No odour	No sheen	
	0874_SW132_210211	11/02/2021	8.13	105	424.8	8	108	28.6	46.63	Yellowish brown	No odour	No sheen	
	0874_SW132_210212	12/02/2021	9	115.1	380.3	7.79	74.2	28.2	20.68	Pale yellow	No odour	No sheen	
	0874_SW132_210213	13/02/2021	13.93	206.2	1869	9.18	55.6	35.4	10.77	Pale yellow	No odour	No sheen	

Mundy Creek	SW116	9/02/2021	0.07	0.04	0.24	<0.02	0.66	<0.02	<0.1	0.03	0.09	<0.02	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	1.15	0.9	1.11	
		10/02/2021	<0.02	<0.02	0.03	<0.02	0.04	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.07	0.07
		11/02/2021	0.02	<0.02	0.13	<0.02	0.14	<0.02	<0.1	<0.02	0.08	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.11	<0.05	<0.05	0.4	0.27	0.4	
		12/02/2021	0.09	0.07	0.44	0.02	0.56	<0.02	<0.1	0.04	0.18	0.03	0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.48	1	1.39	
	13/02/2021	0.07	0.06	0.41	<0.02	0.4	<0.02	<0.1	0.02	0.11	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.1	0.81	1.04		
	9/02/2021	0.2	0.16	1	0.07	2.29	<0.02	0.2	0.17	0.5	0.09	0.16	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.84	3.29	4.61		
	10/02/2021	0.04	0.04	0.22	<0.02	0.46	<0.02	<0.1	0.03	0.1	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	0.93	0.68	0.89	
	11/02/2021	0.62	0.56	3.34	0.24	5.79	<0.02	0.2	0.28	1.32	0.22	0.45	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	13	9.13	12.2		
	12/02/2021	0.08	0.07	0.4	0.03	0.98	<0.02	<0.1	0.06	0.21	0.04	0.07	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.94	1.38	1.84		
	13/02/2021	0.48	0.44	2.65	0.18	4.15	<0.02	0.2	0.2	0.91	0.18	0.35	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	9.74	6.8	9.12		
	9/02/2021	0.05	0.04	0.23	<0.02	0.63	<0.02	<0.1	0.04	0.11	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.16	0.86	1.12		
	10/02/2021	0.13	0.11	0.68	0.04	1.08	<0.02	<0.1	0.05	0.25	0.03	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.41	1.76	2.26		
11/02/2021	0.14	0.13	0.83	0.04	1.19	<0.02	<0.1	0.05	0.3	0.04	0.08	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.11	<0.05	<0.05	2.8	2.02	2.63			
12/02/2021	0.1	0.1	0.59	0.05	1.29	<0.02	<0.1	0.06	0.26	0.04	0.1	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.59	1.88	2.44			
13/02/2021	0.28	0.27	1.67	0.11	2.53	<0.02	0.1	0.13	0.54	0.12	0.22	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	5.97	4.2	5.59			

	Inorganics											Dissolved Major Cations				
	TSS	Dissolved Organic Carbon	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Sulfate as SO4 - Turbidimetric (Filtered)	Chloride	Fluoride	Anions Total	Ionic Balance	Cations Total	Sodium (Filtered)	Calcium (Filtered)	Magnesium (Filtered)	Potassium (Filtered)
LOR	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	%	meq/L	mg/L	mg/L	mg/L	mg/L
LOR	5	1	1	1	1	1	1	1	0.1	0.01	0.01	0.01	1	1	1	1

On/Off-Base	Catchment	Location Code	Sampled Date	TSS	DOC	Alkalinity (Bicarbonate)	Alkalinity (Carbonate)	Alkalinity (Hydroxide)	Alkalinity (Total)	Sulfate	Chloride	Fluoride	Anions Total	Ionic Balance	Cations Total	Sodium	Calcium	Magnesium	Potassium
On-Base	Mundy Creek	SW121	9/02/2021	73	23	77	<1	<1	77	18	39	0.2	3.01	2.82	3.19	44	17	3	7
			10/02/2021	15	24	73	<1	<1	73	9	30	0.2	2.49	-	2.83	31	20	4	6
			11/02/2021	<5	10	35	<1	<1	35	5	15	<0.1	1.23	-	1.3	14	9	2	3
			12/02/2021	<5	12	55	<1	<1	55	6	22	0.1	1.84	-	2.03	22	15	3	3
			13/02/2021	8	16	108	<1	<1	108	10	62	0.2	4.11	0.33	4.09	47	29	6	4
Off-Base	Mundy Creek	SW116	9/02/2021	43	8	20	<1	<1	20	60	339	<0.1	11.2	6.95	9.75	158	18	21	10
			10/02/2021	22	5	97	<1	<1	97	2010	14100	0.7	442	4.21	480	8530	333	1030	311
			11/02/2021	8	7	122	<1	<1	122	1600	11800	0.7	369	0.72	374	6660	252	795	246
			12/02/2021	46	11	66	<1	<1	66	168	1110	0.2	36.1	2.84	38.2	666	47	77	23
			13/02/2021	<5	8	61	<1	<1	61	89	610	0.2	20.3	4.68	18.5	313	30	37	12
	Bohle River/Louisa Creek/Town Common	SW127	9/02/2021	10	9	31	<1	<1	31	5	19	<0.1	1.26	-	1.32	15	8	2	4
			10/02/2021	15	10	52	<1	<1	52	9	52	<0.1	2.69	-	2.92	37	16	5	4
			11/02/2021	6	5	11	<1	<1	11	1	13	<0.1	0.61	-	0.59	9	3	<1	2
			12/02/2021	<5	9	75	<1	<1	75	8	42	0.2	2.85	-	3.03	36	19	6	1
		13/02/2021	<5	8	84	<1	<1	84	8	89	0.2	4.36	1.67	4.21	53	24	8	2	
		SW129	9/02/2021	37	9	34	<1	<1	34	4	26	<0.1	1.5	-	1.67	24	6	3	3
			10/02/2021	45	10	32	<1	<1	32	4	26	<0.1	1.46	-	1.66	24	6	3	3
			11/02/2021	82	9	67	<1	<1	67	37	274	0.1	9.84	8.9	8.23	134	16	17	8
12/02/2021	35		8	54	<1	<1	54	9	54	0.1	2.79	-	2.83	43	10	5	2		
13/02/2021	22	7	38	<1	<1	38	8	41	<0.1	2.08	-	2.04	29	8	4	2			

* Ionic balance cannot be calculated where concentrations of individual anions or cations are below the laboratory LOR.

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	[REDACTED]	Date:	13/05/2021
Client:	Department of Defence				
Site:	Royal Australian Air Force (RAAF) Base Townsville				
Matrix type:	Surface water	Data verified by:	[REDACTED]	Date:	13/05/2021
No. of primary samples:	94 surface water				
Laboratory:	ALS (Brisbane), NMI (Sydney)	Project Manager:	[REDACTED]		
Lab reference:	EB2103614, EB2103615, EB2103815, EB2103904, EB2104017, RN1304839				

Key Issues: No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project.

The data are considered appropriate for use to meet the project objectives.

Field QA/QC

Sampling personnel	Sampling was conducted by AECOM personnel between 9 and 13 February 2021.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
Chain of Custody (COC)	COC documents completed as per AECOM procedures.
Rinsate Blank	Rinsate blank samples were collected at a frequency of at least one per day of sampling (five in total). Rinsate blanks (QC300 to QC304) were collected from the decontaminated surface water sampling cup. Concentrations were reported below the LOR for all analytes tested (see Table C2).
Trip Blanks	Trip blank samples (QC500 to QC504) were collected at a frequency of one per esky of samples submitted to ALS. Five eskies with five associated trip blanks were submitted to the Townsville laboratory. All trip blanks reported concentrations below the LOR, see Table C3 .
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in 10 primary samples for PFAS (10 duplicates and triplicates) and one in 20 primary samples for additional analytes (five duplicates and triplicates).
Handling and preservation	Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 3.9 and 9.3°C. All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.
Equipment Calibration	Calibration of the water quality meter was conducted daily before sampling. Calibration records are presented in Appendix F .

Laboratory QA/QC

Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times, except:

	<ul style="list-style-type: none"> Total suspended solids in 0874_SW116_210212, 0874_SW127_210212, 0874_SW121_210212, 0874_SW129_210212 and 0874_QC106_210212 (EB2103904, 3 days overdue). <p>The samples were received within the holding time however the analysis was not completed within the holding time due to the weekend. The holding time non-compliances are not expected to impact data quality. All PFAS analyses (the key contaminant) were analysed within the minimum holding times.</p>
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except: <ul style="list-style-type: none"> Matrix spikes for PFAS were below the expected rate of 5% in EB2103614, EB2103615, EB2103815 and EB2103904. Matrix spikes for PFAS were below the expected rate of 10% in EB2104017. This is not expected to impact data quality.
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples.
Laboratory control spike recovery	No non-compliances were reported for Laboratory Control Spikes (LCS).
Matrix spike recovery	All matrix spike (MS) recoveries were within control limits, except: <ul style="list-style-type: none"> PFBS, PFPeS, PFHxS, PFOS and PFHxA spike recovery was not determined in 0874_SW125_210210 due to the background level being greater than or equal to four times the spike level (all reported in EB2103615). Chloride spike recovery was not determined for batch EB2103815 due to the background level being greater than or equal to four times the spike level. <p>The PFAS concentrations for 0874_SW125_210210 were comparable to samples collected on the remaining dates at this location. The chloride concentrations for all samples analysed are comparable across all dates in the sampling event for each respective location. This is not expected to impact data quality or the validity of the investigation results.</p>
Surrogate spike recovery	Surrogate spike recoveries were within control limits.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels. <p>LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <ul style="list-style-type: none"> EP231X in 0874_SW123_210209 and 0874_SW125_210209 (EB2103614) EP231X in 0874_SW131_210210, 0874_SW125_210210 and 0874_SW123_210210 (EB2103615). EP231X (PFPeA) in 0874_SW108_210210 (EB2103615). EP231X (FOSA) in 0874_SW125_210211 (EB2103815).

- EP231X (6:2FTS and 8:2 FTS) in 0874_SW102_210211, 0874_SW108_210211, 0874_SW112_210211, 0874_SW115_210211, 0874_SW116_210211, 0874_SW118_210211, 0874_SW125_210211 and 0874_SW131_210211 (EB2103815).
- EP231X (PFDS) in 0874_SW125_210212 (EB2103904).

Where the LOR was raised, the values were sufficiently low to enable assessment against relevant screening levels and this is not expected to impact data quality or interpretation.

Field duplicate RPDs

RPDs for duplicates are reported in **Table C1**. Field duplicate RPDs were reported within control limits except the following (the sample with the higher concentration is in bold):

- 0874_SW118_210211 and **0874_QC104_210211** for PFHxA (62%) and PFOA (103%).
- 0874_SW129_210211 and **0874_QC105_210211** for 6:2FTS (64%) and 8:2 FTS (163%) and PFOS (156%).

The elevated RPDs for duplicate samples are potentially due to heterogeneity within the sample due to high turbidity and suspended particles as noted in **Table T1** in **Appendix B**. These differences are not expected to impact data quality.

0874_QC104_210211 detected concentrations of 6:2FTS and 8:2FTS which were not detected in the associated primary sample 0874_SW118_210211. This inconsistency is potentially due to heterogeneity within the sample due to high turbidity and suspended particles as noted in **Table T1** in **Appendix B**.

There are no applicable guidelines for 6:2FTS and 8:2FTS. Concentrations of PFOS and PFOS+PFHxS were above guideline limits in both the primary and duplicate samples. Given the overall consistency when comparing to the guidelines, the detection of 6:2FTS and 8:2FTS in the duplicate sample is not considered to impact on data quality. However, the detections of 6:2FTS and 8:2FTS should be noted and reviewed again following the next round of sampling.

6:2FTS, 8:2FTS and PFOS were detected in primary sample 0874_SW129_210211 and duplicate sample 0874_QC105_210211, however not detected in triplicate sample 0874_QC205_210211. Concentrations of PFOS were measured at the laboratory LOR (0.01 µg/L) in the primary sample and marginally above LOR (0.08 µg/L) in the duplicate. Non-detects in the triplicate sample are potentially due to sample heterogeneity due to high turbidity and suspended particles as noted in **Table T1** in **Appendix B**. These differences are not considered to impact on data interpretation but the detections of 6:2FTS and 8:2FTS should be noted and reviewed again in the next round of sampling. .

Field triplicate RPDs

Field triplicate RPDs were reported within control limits with the exception of the following (the sample with the higher concentration is in bold):

- Potassium in **0874_SW127_210209** and 0874_QC201_210209 (32%), **0874_SW127_210210** and 0874_QC203_210210 (50%), **0874_SW129_210211** and 0874_QC205_210211 (37%), and **0874_SW121_210212** and 0874_QC206_210212 (45%).
- **0874_SW129_210211** and 0874_QC205_210211 (31%) for chloride.
- 0874_SW129_210211 and **0874_QC205_210211** (52%) for total suspended solids.
- **0874_SW123_210213** and 0874_QC209_210213 (44%) for PFHpS.

The non-compliant RPDs for triplicate surface water samples are likely to be due to different extraction methods used by the laboratories. The minor non-compliances are not considered to affect the interpretation of the data.

TSS was detected in triplicate sample 0874_QC208_210213 and below laboratory LOR in the corresponding primary and duplicate samples. The non-detect in the primary and duplicate samples is not expected to impact data quality and is likely a result of different extraction methods used by the laboratories or minor sample heterogeneity.

Lab Report Number	EB2103614	EB2103614		RN1304839		EB2103614	EB2103614		RN1304839	
Field ID	0874_SW118_210209	0874_QC100_210209		0874_QC200_210209		0874_SW127_210209	0874_QC101_210209		0874_QC201_210209	
Date	9/02/2021	9/02/2021		9/02/2021		9/02/2021	9/02/2021		9/02/2021	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05/0.01	<0.05	0.25	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.05	0.06	18	0.043	15	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.01/0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	0.02	0.02	0	0.012	50	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.11	0.12	9	0.089	21	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.04	0.04	0	0.03	29	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.04	0.04	0	0.035	13	<0.02	<0.02	NC	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	0.63	0.65	3	0.5	23	<0.01	<0.01	NC	<0.02	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.04	0.04	0	0.027	39	<0.01	<0.01	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02/0.01	0.23	0.23	0	0.22	4	<0.02	<0.02	NC	<0.01	NC
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-	9	9	0	-	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-	31	33	6	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-	<1	<1	NC	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-	<1000	<1000	NC	-	-
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	31	33	6	-	-
Anions Total	meq/L	0.01	-	-	-	-	-	1.26	1.25	1	-	-
Cations Total	meq/L	0.01	-	-	-	-	-	1.32	1.32	0	-	-
Chloride	mg/L	0.1	-	-	-	-	-	19	18	5	19	0
Fluoride	mg/L	0.1	-	-	-	-	-	<0.1	<0.1	NC	-	-
Ionic Balance	%	0.01	-	-	-	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-	15	15	0	12	22
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-	5	4	22	-	-
TSS	mg/L	2	-	-	-	-	-	10	12	18	17	52
Calcium (filtered)	mg/L	0.005	-	-	-	-	-	8	8	0	7.6	5
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-	2	2	0	2.6	26
Potassium (filtered)	mg/L	0.05	-	-	-	-	-	4	4	0	2.9	32

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	EB2103615	EB2103615		RN1304839		EB2103615	EB2103615		RN1304839
Field ID	0874_SW102_210210	0874_QC102_210210		0874_QC202_210210		0874_SW127_210210	0874_QC103_210210		0874_QC203_210210
Date	10/02/2021	10/02/2021		10/02/2021		10/02/2021	10/02/2021		10/02/2021
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.08	0.08	0	0.081	1	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.01/0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.12	0.13	8	0.081	39	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.06	0.06	0	0.047	24	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.04	0.03	29	0.025	46	<0.02	<0.02	NC	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	0.43	0.44	2	0.38	12	0.01	<0.01	NC	<0.02	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.02	0.02	0	0.013	42	<0.01	<0.01	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02/0.01	0.4	0.38	5	0.38	5	<0.02	<0.02	NC	<0.01	NC
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-	10	10	0	-	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-	52	53	2	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-	<1	<1	NC	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-	<1000	<1000	NC	-	-
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	52	53	2	-	-
Anions Total	meq/L	0.01	-	-	-	-	-	2.69	2.74	2	-	-
Cations Total	meq/L	0.01	-	-	-	-	-	2.92	2.88	1	-	-
Chloride	mg/L	0.1	-	-	-	-	-	52	53	2	48	8
Fluoride	mg/L	0.1	-	-	-	-	-	<0.1	<0.1	NC	-	-
Ionic Balance	%	0.01	-	-	-	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-	37	36	3	28	28
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-	9	9	0	-	-
TSS	mg/L	2	-	-	-	-	-	15	10	40	9	50
Calcium (filtered)	mg/L	0.005	-	-	-	-	-	16	16	0	15	6
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-	5	5	0	5	0
Potassium (filtered)	mg/L	0.05	-	-	-	-	-	4	4	0	2.4	50

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	EB2103815	EB2103815		RN1304839		EB2103815	EB2103815		RN1304839	
Field ID	0874_SW118_210211	0874_QC104_210211		0874_QC204_210211		0874_SW129_210211	0874_QC105_210211		0874_QC205_210211	
Date	11/02/2021	11/02/2021		11/02/2021		11/02/2021	11/02/2021		11/02/2021	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05/0.01	<0.11	0.96	NC	<0.01	NC	0.46	0.89	64	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	0.39	NC	<0.01	NC	0.18	1.78	163	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.14	0.16	13	0.14	0	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.01/0.05	<0.1	<0.1	NC	0.058	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	0.04	0.05	22	0.027	39	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	0.04	0.06	40	0.027	39	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.3	0.57	62	0.24	22	0.13	0.11	17	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.13	0.14	7	0.11	17	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.05	0.08	46	0.049	2	<0.02	<0.02	NC	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	1.19	1.53	25	1.1	8	0.01	0.08	156	<0.02	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.08	0.25	103	0.052	42	0.09	0.14	43	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02/0.01	0.83	0.96	15	0.86	4	<0.02	<0.02	NC	<0.01	NC
Dissolved Organic Carbon	mg/L	1	-	-	-	-	-	9	9	0	-	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	-	-	-	-	-	67	58	14	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	-	-	-	-	-	<1	<1	NC	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	-	-	-	-	-	<1000	<1000	NC	-	-
Alkalinity (total) as CaCO3	mg/L	1	-	-	-	-	-	67	58	14	-	-
Anions Total	meq/L	0.01	-	-	-	-	-	9.84	9.6	2	-	-
Cations Total	meq/L	0.01	-	-	-	-	-	8.23	8.19	0	-	-
Chloride	mg/L	0.1	-	-	-	-	-	274	272	1	200	31
Fluoride	mg/L	0.1	-	-	-	-	-	0.1	0.1	0	-	-
Ionic Balance	%	0.01	-	-	-	-	-	8.9	7.95	11	-	-
Sodium (filtered)	mg/L	0.05	-	-	-	-	-	134	133	1	120	11
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	-	-	-	-	-	37	37	0	-	-
TSS	mg/L	2	-	-	-	-	-	82	70	16	140	52
Calcium (filtered)	mg/L	0.005	-	-	-	-	-	16	16	0	15	6
Magnesium (filtered)	mg/L	0.005	-	-	-	-	-	17	17	0	16	6
Potassium (filtered)	mg/L	0.05	-	-	-	-	-	8	8	0	5.5	37

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	EB2103904	EB2103904		RN1304839		EB2103904	EB2103904		RN1304839	
Field ID	0874_SW121_210212	0874_QC106_210212		0874_QC206_210212		0874_SW112_210212	0874_QC107_210212		0874_QC207_210212	
Date	12/02/2021	12/02/2021		12/02/2021		12/02/2021	12/02/2021		12/02/2021	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.18	0.17	6	0.18	0	<0.02	0.03	NC	0.016	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.01/0.05	0.1	0.1	0	0.13	26	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	0.05	0.05	0	0.032	44	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	0.02	<0.02	NC	0.016	22	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.24	0.22	9	0.23	4	0.05	0.04	22	0.039	25
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.14	0.13	7	0.13	7	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.07	0.07	0	0.08	13	<0.02	<0.02	NC	0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	1.18	1.24	5	1.3	10	0.1	0.11	10	0.088	13
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.04	0.04	0	0.039	3	0.02	0.01	67	0.013	42
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02/0.01	0.83	0.77	7	0.9	8	0.09	0.1	11	0.1	11
Dissolved Organic Carbon	mg/L	1	12	13	8	-	-	-	-	-	-	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	55	57	4	-	-	-	-	-	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	<1	<1	NC	-	-	-	-	-	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	<1000	<1000	NC	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	1	55	57	4	-	-	-	-	-	-	-
Anions Total	meq/L	0.01	1.84	1.91	4	-	-	-	-	-	-	-
Cations Total	meq/L	0.01	2.03	1.98	2	-	-	-	-	-	-	-
Chloride	mg/L	0.1	22	23	4	24	9	-	-	-	-	-
Fluoride	mg/L	0.1	0.1	0.1	0	-	-	-	-	-	-	-
Ionic Balance	%	0.01	-	-	-	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	22	21	5	17	26	-	-	-	-	-
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	6	6	0	-	-	-	-	-	-	-
TSS	mg/L	2	<5	<5	NC	5	0	-	-	-	-	-
Calcium (filtered)	mg/L	0.005	15	15	0	13	14	-	-	-	-	-
Magnesium (filtered)	mg/L	0.005	3	3	0	2.6	14	-	-	-	-	-
Potassium (filtered)	mg/L	0.05	3	3	0	1.9	45	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	EB2104017	EB2104017		RN1304839		EB2104017	EB2104017		RN1304839	
Field ID	0874_SW116_210213	0874_QC108_210213		0874_QC208_210213		0874_SW123_210213	0874_QC109_210213		0874_QC209_210213	
Date	13/02/2021	13/02/2021		13/02/2021		13/02/2021	13/02/2021		13/02/2021	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.07	0.07	0	0.07	0	0.7	0.72	3	0.74	6
Perfluorobutanoic acid (PFBA)	µg/L	0.01/0.05	<0.1	<0.1	NC	<0.05	NC	0.2	0.2	0	0.29	37
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	0.02	NC	0.011	NC	0.53	0.56	6	0.34	44
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	0.012	NC	0.15	0.15	0	0.14	7
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.11	0.14	24	0.11	0	1.12	1.45	26	1.3	15
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.06	0.06	0	0.05	18	0.75	0.84	11	0.64	16
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.02	0.02	0	0.028	33	0.29	0.38	27	0.34	16
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	0.4	0.3	29	0.49	20	5.82	7.82	29	6.3	8
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.03	0.03	0	0.023	26	0.31	0.36	15	0.28	10
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.02/0.01	0.41	0.42	2	0.38	8	4.18	4.4	5	4.3	3
Dissolved Organic Carbon	mg/L	1	8	10	22	-	-	-	-	-	-	-
Alkalinity (Bicarbonate as CaCO3)	mg/L	1	61	58	5	-	-	-	-	-	-	-
Alkalinity (Carbonate as CaCO3)	mg/L	1	<1	<1	NC	-	-	-	-	-	-	-
Alkalinity (Hydroxide) as CaCO3	µg/L	1,000	<1000	<1000	NC	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	1	61	58	5	-	-	-	-	-	-	-
Anions Total	meq/L	0.01	20.3	20.1	1	-	-	-	-	-	-	-
Cations Total	meq/L	0.01	18.5	18.2	2	-	-	-	-	-	-	-
Chloride	mg/L	0.1	610	606	1	490	22	-	-	-	-	-
Fluoride	mg/L	0.1	0.2	0.2	0	-	-	-	-	-	-	-
Ionic Balance	%	0.01	4.68	5.04	7	-	-	-	-	-	-	-
Sodium (filtered)	mg/L	0.05	313	308	2	280	11	-	-	-	-	-
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1	89	90	1	-	-	-	-	-	-	-
TSS	mg/L	2	<5	<5	NC	15	NC	-	-	-	-	-
Calcium (filtered)	mg/L	0.005	30	29	3	28	7	-	-	-	-	-
Magnesium (filtered)	mg/L	0.005	37	37	0	36	3	-	-	-	-	-
Potassium (filtered)	mg/L	0.05	12	12	0	11	9	-	-	-	-	-

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

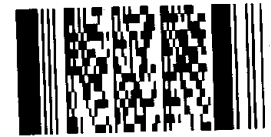
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Appendix D

Chain of Custody Records


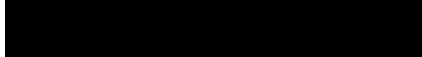
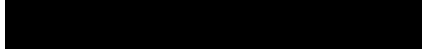



Environmental Division
 Brisbane
 Work Order Reference
EB2103614

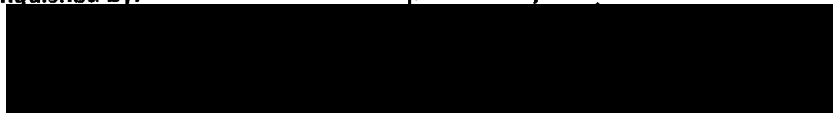
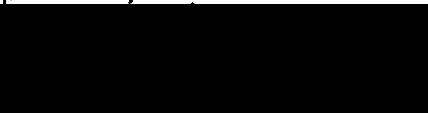
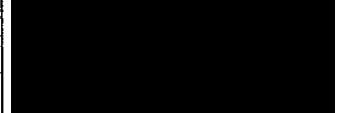
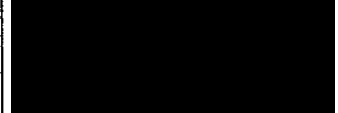


Telephone + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PFASOMP Client: AECOM Project Manager: 
 Phone: 
 ALS Compass COC Reference: 18713 # Samples: 23 Sampler: 
 Phone: 
 Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:		Custody:	
Relinquished by:	Received by:	Relinquished by:	Received by:
			
Date / Time: <u>10/2/21</u> <u>1440</u>	Date / Time: <u>10/2/21</u> <u>2:40pm</u>	Date / Time:	Date / Time: <u>11-2-21</u> <u>09:20</u>

**CHAIN OF CUSTODY**

ALS COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_210209		09/02/2021 11:02 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_SW118_210209		09/02/2021 11:24 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW115_210209		09/02/2021 11:39 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_SW116_210209		09/02/2021 11:54 AM	Water	ALS: 4 Non ALS: 0	No	X		
005	0874_SW109_210209		09/02/2021 12:18 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_SW108_210209		09/02/2021 12:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_SW010_210209		09/02/2021 04:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_SW121_210209		09/02/2021 04:42 PM	Water	ALS: 4 Non ALS: 0	No	X		
009	0874_SW132_210209		09/02/2021 04:17 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW102_210209		09/02/2021 04:10 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_SW131_210209		09/02/2021 03:42 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_SW016_210209		09/02/2021 03:15 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_SW125_210209		09/02/2021 02:56 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_SW123_210209		09/02/2021 02:25 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
015	0874_SW112_210209		09/02/2021 01:08 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
016	0874_SW014_210209		09/02/2021 05:29 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_SW017_210209		09/02/2021 05:42 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
018	0874_SW127_210209		09/02/2021 05:57 PM	Water	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

ALS COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW129_210209		09/02/2021 06:24 PM	Water	ALS: 4 Non ALS: 0	No	X		
020	0874_QC100_210209		09/02/2021 11:25 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_QC500_210209		09/02/2021 05:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC300_210209		09/02/2021 05:33 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
023	0874_QC101_210209		09/02/2021 05:57 PM	Water	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

ALS COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW117_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW118_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW115_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW109_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW108_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW010_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW132_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW102_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW131_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW016_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW125_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW123_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW112_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
016	0874_SW014_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_SW017_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

020	0874_QC100_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_QC500_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC300_210209	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:
CONTACT PH: **SAMPLER MOBILE:**
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_210209	HDPE (no PTFE)	20 mL	00352010059520	Grey	No	
001	0874_SW117_210209	HDPE (no PTFE)	20 mL	00352010059532	Grey	No	
002	0874_SW118_210209	HDPE (no PTFE)	20 mL	00352010059498	Grey	No	
002	0874_SW118_210209	HDPE (no PTFE)	20 mL	00352010059619	Grey	No	
003	0874_SW115_210209	HDPE (no PTFE)	20 mL	00352010059678	Grey	No	
003	0874_SW115_210209	HDPE (no PTFE)	20 mL	00352010059575	Grey	No	
003	0874_SW115_210209	HDPE (no PTFE)	20 mL	00352010059672	Grey	No	
003	0874_SW115_210209	HDPE (no PTFE)	20 mL	00352010059685	Grey	No	
004	0874_SW116_210209	HDPE (no PTFE)	20 mL	00352010059612	Grey	No	
004	0874_SW116_210209	HDPE (no PTFE)	20 mL	00352010059504	Grey	No	
004	0874_SW116_210209	Clear Plastic Bottle - Natural	500 mL	00071119271778	Green	No	
004	0874_SW116_210209	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065413	Purple	No	
005	0874_SW109_210209	HDPE (no PTFE)	20 mL	00352010059569	Grey	No	
005	0874_SW109_210209	HDPE (no PTFE)	20 mL	00352010059538	Grey	No	
005	0874_SW109_210209	HDPE (no PTFE)	20 mL	00352010059734	Grey	No	
005	0874_SW109_210209	HDPE (no PTFE)	20 mL	00352010059691	Grey	No	
006	0874_SW108_210209	HDPE (no PTFE)	20 mL	00352010059617	Grey	No	
006	0874_SW108_210209	HDPE (no PTFE)	20 mL	00352010059708	Grey	No	
007	0874_SW010_210209	HDPE (no PTFE)	20 mL	00352010059631	Grey	No	
007	0874_SW010_210209	HDPE (no PTFE)	20 mL	00352010059688	Grey	No	
008	0874_SW121_210209	HDPE (no PTFE)	20 mL	00352010059524	Grey	No	
008	0874_SW121_210209	HDPE (no PTFE)	20 mL	00352010059526	Grey	No	
008	0874_SW121_210209	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065455	Purple	No	
008	0874_SW121_210209	Clear Plastic Bottle - Natural	500 mL	00071119271776	Green	No	
009	0874_SW132_210209	HDPE (no PTFE)	20 mL	00352010059549	Grey	No	
009	0874_SW132_210209	HDPE (no PTFE)	20 mL	00352010059759	Grey	No	

**CHAIN OF CUSTODY**

COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

010	0874_SW102_210209	HDPE (no PTFE)	20 mL	00352010059736	Grey	No	
010	0874_SW102_210209	HDPE (no PTFE)	20 mL	00352010059540	Grey	No	
011	0874_SW131_210209	HDPE (no PTFE)	20 mL	00352010059500	Grey	No	
011	0874_SW131_210209	HDPE (no PTFE)	20 mL	00352010059554	Grey	No	
012	0874_SW016_210209	HDPE (no PTFE)	20 mL	00352010059475	Grey	No	
012	0874_SW016_210209	HDPE (no PTFE)	20 mL	00352010059582	Grey	No	
012	0874_SW016_210209	HDPE (no PTFE)	20 mL	00352010059533	Grey	No	
012	0874_SW016_210209	HDPE (no PTFE)	20 mL	00352010059497	Grey	No	
013	0874_SW125_210209	HDPE (no PTFE)	20 mL	00352010059607	Grey	No	
013	0874_SW125_210209	HDPE (no PTFE)	20 mL	00352010059473	Grey	No	
014	0874_SW123_210209	HDPE (no PTFE)	20 mL	00352010059485	Grey	No	
014	0874_SW123_210209	HDPE (no PTFE)	20 mL	00352010059521	Grey	No	
015	0874_SW112_210209	HDPE (no PTFE)	20 mL	00352010059508	Grey	No	
015	0874_SW112_210209	HDPE (no PTFE)	20 mL	00352010059687	Grey	No	
016	0874_SW014_210209	HDPE (no PTFE)	20 mL	00352010059548	Grey	No	
016	0874_SW014_210209	HDPE (no PTFE)	20 mL	00352010059737	Grey	No	
016	0874_SW014_210209	HDPE (no PTFE)	20 mL	00352010059551	Grey	No	
016	0874_SW014_210209	HDPE (no PTFE)	20 mL	00352010059699	Grey	No	
017	0874_SW017_210209	HDPE (no PTFE)	20 mL	00352010059731	Grey	No	
017	0874_SW017_210209	HDPE (no PTFE)	20 mL	00352010059565	Grey	No	
018	0874_SW127_210209	Clear Plastic Bottle - Natural	500 mL	00071119271780	Green	No	
018	0874_SW127_210209	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065449	Purple	No	
018	0874_SW127_210209	HDPE (no PTFE)	20 mL	00352010059711	Grey	No	
018	0874_SW127_210209	HDPE (no PTFE)	20 mL	00352010059559	Grey	No	
019	0874_SW129_210209	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048307	Purple	No	
019	0874_SW129_210209	HDPE (no PTFE)	20 mL	00352010059751	Grey	No	
019	0874_SW129_210209	HDPE (no PTFE)	20 mL	00352010059686	Grey	No	

**CHAIN OF CUSTODY**

COC#: 18713 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

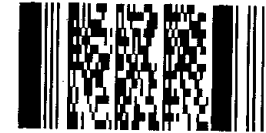
Other comments:

019	0874_SW129_210209	Clear Plastic Bottle - Natural	500 mL	00071119271782	Green	No	
020	0874_QC100_210209	HDPE (no PTFE)	20 mL	00352010059545	Grey	No	
020	0874_QC100_210209	HDPE (no PTFE)	20 mL	00352010059534	Grey	No	
021	0874_QC500_210209	HDPE (no PTFE)	20 mL	00350019100038	Grey	No	
021	0874_QC500_210209	HDPE (no PTFE)	20 mL	00352005002484	Grey	No	
022	0874_QC300_210209	HDPE (no PTFE)	20 mL	00352010059581	Grey	No	
022	0874_QC300_210209	HDPE (no PTFE)	20 mL	00352010059626	Grey	No	
022	0874_QC300_210209	HDPE (no PTFE)	20 mL	00352010059709	Grey	No	
022	0874_QC300_210209	HDPE (no PTFE)	20 mL	00352010059516	Grey	No	
023	0874_QC101_210209	Clear Plastic Bottle - Natural	500 mL	00071119271799	Green	No	
023	0874_QC101_210209	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220027271	Purple	No	
023	0874_QC101_210209	HDPE (no PTFE)	20 mL	00352010059741	Grey	No	
023	0874_QC101_210209	HDPE (no PTFE)	20 mL	00352010059763	Grey	No	

Total Bottle Count: ALS: 66, Non ALS: 0



Environmental Division
 Brisbane
 Work Order Reference
EB2103615



Telephone + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA5 OMP Client: AECOM

Project Manager:
 Phone:

ALS Compass COC Reference: 13785 # Samples: 23

Sampler:
 Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?		°C	

Custody:

Relinquished by: 	Received by: 	Relinquished by: 	
Date / Time: <u>10/2/21 1440</u>	Date / Time: <u>10/2/21 2:40pm</u>	Date / Time:	Date / Time: <u>11-2-21 09:20</u>

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_210210		10/02/2021 07:06 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_SW118_210210		10/02/2021 07:28 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW115_210210		10/02/2021 07:49 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_SW116_210210		10/02/2021 07:58 AM	Water	ALS: 4 Non ALS: 0	No	X		
005	0874_SW109_210210		10/02/2021 08:12 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_SW108_210210		10/02/2021 08:29 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_SW010_210210		10/02/2021 01:18 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_SW121_210210		10/02/2021 01:43 PM	Water	ALS: 4 Non ALS: 0	No	X		
009	0874_SW132_210210		10/02/2021 01:23 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW102_210210		10/02/2021 09:28 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_SW131_210210		10/02/2021 09:07 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_SW016_210210		10/02/2021 09:47 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_SW125_210210		10/02/2021 10:00 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_SW123_210210		10/02/2021 10:33 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
015	0874_SW112_210210		10/02/2021 11:07 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
016	0874_SW014_210210		10/02/2021 11:37 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_SW017_210210		10/02/2021 11:46 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
018	0874_SW127_210210		10/02/2021 12:01 PM	Water	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW129_210210		10/02/2021 12:24 PM	Water	ALS: 4 Non ALS: 0	No	Partial 2/4		
020	0874_QC102_210210		10/02/2021 09:29 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_QC501_210210		10/02/2021 06:48 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC301_210210		10/02/2021 01:10 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
023	0874_QC103_210210		10/02/2021 12:02 PM	Water	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW117_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW118_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW115_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW109_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW108_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW010_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW132_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW102_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW131_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW016_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW125_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW123_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW112_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
016	0874_SW014_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_SW017_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

019	0874_SW129_210210	Waters WATER	Water	- EP002 Dissolved Organic Carbon (DOC) - EP231X PFAS - Full Suite (28 analytes)
020	0874_QC102_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_QC501_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC301_210210	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

ALS COC#: 18785 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_210210	HDPE (no PTFE)	20 mL	00352010059676	Grey	No	
001	0874_SW117_210210	HDPE (no PTFE)	20 mL	00352010059721	Grey	No	
002	0874_SW118_210210	HDPE (no PTFE)	20 mL	00352010059602	Grey	No	
002	0874_SW118_210210	HDPE (no PTFE)	20 mL	00352010059755	Grey	No	
003	0874_SW115_210210	HDPE (no PTFE)	20 mL	00352010059592	Grey	No	
003	0874_SW115_210210	HDPE (no PTFE)	20 mL	00352010059597	Grey	No	
003	0874_SW115_210210	HDPE (no PTFE)	20 mL	00352010059625	Grey	No	
003	0874_SW115_210210	HDPE (no PTFE)	20 mL	00352010059517	Grey	No	
004	0874_SW116_210210	HDPE (no PTFE)	20 mL	00352010059570	Grey	No	
004	0874_SW116_210210	HDPE (no PTFE)	20 mL	00352010059714	Grey	No	
004	0874_SW116_210210	Clear Plastic Bottle - Natural	500 mL	00071119271791	Green	No	
004	0874_SW116_210210	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220027300	Purple	No	
005	0874_SW109_210210	HDPE (no PTFE)	20 mL	00352010059696	Grey	No	
005	0874_SW109_210210	HDPE (no PTFE)	20 mL	00352010059723	Grey	No	
005	0874_SW109_210210	HDPE (no PTFE)	20 mL	00352010059677	Grey	No	
005	0874_SW109_210210	HDPE (no PTFE)	20 mL	00352010059674	Grey	No	
006	0874_SW108_210210	HDPE (no PTFE)	20 mL	00352010059732	Grey	No	
006	0874_SW108_210210	HDPE (no PTFE)	20 mL	00352010059728	Grey	No	
007	0874_SW010_210210	HDPE (no PTFE)	20 mL	00352010059586	Grey	No	
007	0874_SW010_210210	HDPE (no PTFE)	20 mL	00352010059724	Grey	No	
008	0874_SW121_210210	Clear Plastic Bottle - Natural	500 mL	00071119271765	Green	No	
008	0874_SW121_210210	HDPE (no PTFE)	20 mL	00352010059490	Grey	No	
008	0874_SW121_210210	HDPE (no PTFE)	20 mL	00352010059743	Grey	No	
008	0874_SW121_210210	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048341	Purple	No	
009	0874_SW132_210210	HDPE (no PTFE)	20 mL	00352010059630	Grey	No	
009	0874_SW132_210210	HDPE (no PTFE)	20 mL	00352010059716	Grey	No	

ALS CHAIN OF CUSTODY
 COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

010	0874_SW102_210210	HDPE (no PTFE)	20 mL	00352010059627	Grey	No	
010	0874_SW102_210210	HDPE (no PTFE)	20 mL	00352010059522	Grey	No	
011	0874_SW131_210210	HDPE (no PTFE)	20 mL	00352010059568	Grey	No	
011	0874_SW131_210210	HDPE (no PTFE)	20 mL	00352010059499	Grey	No	
011	0874_SW131_210210	HDPE (no PTFE)	20 mL	00352010059574	Grey	No	
011	0874_SW131_210210	HDPE (no PTFE)	20 mL	00352010059594	Grey	No	
012	0874_SW016_210210	HDPE (no PTFE)	20 mL	00352010059605	Grey	No	
012	0874_SW016_210210	HDPE (no PTFE)	20 mL	00352010059650	Grey	No	
013	0874_SW125_210210	HDPE (no PTFE)	20 mL	00352010059679	Grey	No	
013	0874_SW125_210210	HDPE (no PTFE)	20 mL	00352010059487	Grey	No	
013	0874_SW125_210210	HDPE (no PTFE)	20 mL	00352010059566	Grey	No	
013	0874_SW125_210210	HDPE (no PTFE)	20 mL	00352010059589	Grey	No	
014	0874_SW123_210210	HDPE (no PTFE)	20 mL	00352010059502	Grey	No	
014	0874_SW123_210210	HDPE (no PTFE)	20 mL	00352010059656	Grey	No	
015	0874_SW112_210210	HDPE (no PTFE)	20 mL	00352010059753	Grey	No	
015	0874_SW112_210210	HDPE (no PTFE)	20 mL	00352010059769	Grey	No	
016	0874_SW014_210210	HDPE (no PTFE)	20 mL	00352010059552	Grey	No	
016	0874_SW014_210210	HDPE (no PTFE)	20 mL	00352010059635	Grey	No	
016	0874_SW014_210210	HDPE (no PTFE)	20 mL	00352010059655	Grey	No	
016	0874_SW014_210210	HDPE (no PTFE)	20 mL	00352010059537	Grey	No	
017	0874_SW017_210210	HDPE (no PTFE)	20 mL	00352010059510	Grey	No	
017	0874_SW017_210210	HDPE (no PTFE)	20 mL	00352010059718	Grey	No	
018	0874_SW127_210210	Clear Plastic Bottle - Natural	500 mL	00071119271798	Green	No	
018	0874_SW127_210210	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048353	Purple	No	
018	0874_SW127_210210	HDPE (no PTFE)	20 mL	00352010059527	Grey	No	
018	0874_SW127_210210	HDPE (no PTFE)	20 mL	00352010059567	Grey	No	
019	0874_SW129_210210	Clear Plastic Bottle - Natural	500 mL	00071119271803	Green	No	

**CHAIN OF CUSTODY**

COC#: 18785 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:

019	0874_SW129_210210	HDPE (no PTFE)	20 mL	00352010059553	Grey	No	
019	0874_SW129_210210	HDPE (no PTFE)	20 mL	00352010059528	Grey	No	
019	0874_SW129_210210	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018053273	Purple	No	
020	0874_QC102_210210	HDPE (no PTFE)	20 mL	00352010059747	Grey	No	
020	0874_QC102_210210	HDPE (no PTFE)	20 mL	00352010059667	Grey	No	
021	0874_QC501_210210	HDPE (no PTFE)	20 mL	00350019100052	Grey	No	
021	0874_QC501_210210	HDPE (no PTFE)	20 mL	00352005002445	Grey	No	
022	0874_QC301_210210	HDPE (no PTFE)	20 mL	00352010059703	Grey	No	
022	0874_QC301_210210	HDPE (no PTFE)	20 mL	00352010059653	Grey	No	
023	0874_QC103_210210	HDPE (no PTFE)	20 mL	00352010059616	Grey	No	
023	0874_QC103_210210	HDPE (no PTFE)	20 mL	00352010059638	Grey	No	
023	0874_QC103_210210	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220027185	Purple	No	
023	0874_QC103_210210	Clear Plastic Bottle - Natural	500 mL	00071119271790	Green	No	

Total Bottle Count: ALS: 66, Non ALS: 0



Environmental Division
 Brisbane
 Work Order Reference
EB2103815



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874-PFASOMP Client: AECOM

Project Manager
 Phone:

ALS Compass COC Reference: 18857 # Samples: 22

Sampler:
 Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?		°C	

Custody:

Date / Time: <u>16:12</u> <u>11/2/21</u>	Date / Time: <u>11/2/21</u> <u>16:12</u>	Date / Time:	Date / Time: <u>12/2/21</u> <u>8:45</u>

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_210211		11/02/2021 08:38 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_SW118_210211		11/02/2021 08:52 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW115_210211		11/02/2021 09:11 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_SW116_210211		11/02/2021 09:24 AM	Water	ALS: 4 Non ALS: 0	No	X		
005	0874_SW109_210211		11/02/2021 09:46 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_SW108_210211		11/02/2021 09:55 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_SW112_210211		11/02/2021 03:30 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_SW123_210211		11/02/2021 01:05 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_SW125_210211		11/02/2021 12:37 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED] CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 PRIMARY SAMPLER: [REDACTED] QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW102_210211		11/02/2021 02:14 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_SW131_210211		11/02/2021 01:48 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_SW010_210211		11/02/2021 01:17 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_SW132_210211		11/02/2021 01:23 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_SW121_210211		11/02/2021 12:08 PM	Water	ALS: 4 Non ALS: 0	No	X		
015	0874_SW014_210211		11/02/2021 08:17 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_SW017_210211		11/02/2021 11:36 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
017	0874_SW127_210211		11/02/2021 10:17 AM	Water	ALS: 4 Non ALS: 0	No	X		
018	0874_SW129_210211		11/02/2021 10:40 AM	Water	ALS: 4 Non ALS: 0	No	X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC104_210211		11/02/2021 08:51 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
020	0874_QC105_210211		11/02/2021 10:55 AM	Water	ALS: 4 Non ALS: 0	No	X		
021	0874_QC302_210211		11/02/2021 03:44 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC502_210211		11/02/2021 11:42 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 18857

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW117_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW118_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW115_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW109_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW108_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW112_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW123_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW125_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW102_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW131_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW010_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW132_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW014_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
016	0874_SW017_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_QC104_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18857

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

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RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

021	0874_QC302_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC502_210211	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

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EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_210211	HDPE (no PTFE)	20 mL	00352010059613	Grey	No	
001	0874_SW117_210211	HDPE (no PTFE)	20 mL	00352010059618	Grey	No	
002	0874_SW118_210211	HDPE (no PTFE)	20 mL	00352010059621	Grey	No	
002	0874_SW118_210211	HDPE (no PTFE)	20 mL	00352010059637	Grey	No	
003	0874_SW115_210211	HDPE (no PTFE)	20 mL	00352010059601	Grey	No	
003	0874_SW115_210211	HDPE (no PTFE)	20 mL	00352010059501	Grey	No	
003	0874_SW115_210211	HDPE (no PTFE)	20 mL	00352010059546	Grey	No	
003	0874_SW115_210211	HDPE (no PTFE)	20 mL	00352010059513	Grey	No	
004	0874_SW116_210211	HDPE (no PTFE)	20 mL	00352010059486	Grey	No	
004	0874_SW116_210211	HDPE (no PTFE)	20 mL	00352010059762	Grey	No	
004	0874_SW116_210211	Clear Plastic Bottle - Natural	500 mL	00071119271761	Green	No	
004	0874_SW116_210211	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048327	Purple	No	
005	0874_SW109_210211	HDPE (no PTFE)	20 mL	00352010059544	Grey	No	
005	0874_SW109_210211	HDPE (no PTFE)	20 mL	00352010059596	Grey	No	
005	0874_SW109_210211	HDPE (no PTFE)	20 mL	00352010059591	Grey	No	
005	0874_SW109_210211	HDPE (no PTFE)	20 mL	00352010059547	Grey	No	
006	0874_SW108_210211	HDPE (no PTFE)	20 mL	00352010059730	Grey	No	
006	0874_SW108_210211	HDPE (no PTFE)	20 mL	00352010059577	Grey	No	
007	0874_SW112_210211	HDPE (no PTFE)	20 mL	00352010059689	Grey	No	
007	0874_SW112_210211	HDPE (no PTFE)	20 mL	00352010059729	Grey	No	
008	0874_SW123_210211	HDPE (no PTFE)	20 mL	00352010059652	Grey	No	
008	0874_SW123_210211	HDPE (no PTFE)	20 mL	00352010059768	Grey	No	
009	0874_SW125_210211	HDPE (no PTFE)	20 mL	00352010059472	Grey	No	
009	0874_SW125_210211	HDPE (no PTFE)	20 mL	00352010059503	Grey	No	
009	0874_SW125_210211	HDPE (no PTFE)	20 mL	00352010059583	Grey	No	
009	0874_SW125_210211	HDPE (no PTFE)	20 mL	00352010059661	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

010	0874_SW102_210211	HDPE (no PTFE)	20 mL	00352010059561	Grey	No	
010	0874_SW102_210211	HDPE (no PTFE)	20 mL	00352010059557	Grey	No	
011	0874_SW131_210211	HDPE (no PTFE)	20 mL	00352010059560	Grey	No	
011	0874_SW131_210211	HDPE (no PTFE)	20 mL	00352010059474	Grey	No	
011	0874_SW131_210211	HDPE (no PTFE)	20 mL	00352010059757	Grey	No	
011	0874_SW131_210211	HDPE (no PTFE)	20 mL	00352010059658	Grey	No	
012	0874_SW010_210211	HDPE (no PTFE)	20 mL	00352010059629	Grey	No	
012	0874_SW010_210211	HDPE (no PTFE)	20 mL	00352010059694	Grey	No	
013	0874_SW132_210211	HDPE (no PTFE)	20 mL	00352010059530	Grey	No	
013	0874_SW132_210211	HDPE (no PTFE)	20 mL	00352010059505	Grey	No	
014	0874_SW121_210211	Clear Plastic Bottle - Natural	500 mL	00071119271793	Green	No	
014	0874_SW121_210211	HDPE (no PTFE)	20 mL	00352010059572	Grey	No	
014	0874_SW121_210211	HDPE (no PTFE)	20 mL	00352010059496	Grey	No	
014	0874_SW121_210211	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220027197	Purple	No	
015	0874_SW014_210211	HDPE (no PTFE)	20 mL	00352010059749	Grey	No	
015	0874_SW014_210211	HDPE (no PTFE)	20 mL	00352010059649	Grey	No	
015	0874_SW014_210211	HDPE (no PTFE)	20 mL	00352010059726	Grey	No	
015	0874_SW014_210211	HDPE (no PTFE)	20 mL	00352010059481	Grey	No	
016	0874_SW017_210211	HDPE (no PTFE)	20 mL	00352010059697	Grey	No	
016	0874_SW017_210211	HDPE (no PTFE)	20 mL	00352010059587	Grey	No	
017	0874_SW127_210211	HDPE (no PTFE)	20 mL	00352010059562	Grey	No	
017	0874_SW127_210211	HDPE (no PTFE)	20 mL	00352010059585	Grey	No	
017	0874_SW127_210211	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220039045	Purple	No	
017	0874_SW127_210211	Clear Plastic Bottle - Natural	500 mL	00071119271770	Green	No	
018	0874_SW129_210211	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220038880	Purple	No	
018	0874_SW129_210211	HDPE (no PTFE)	20 mL	00352010059695	Grey	No	
018	0874_SW129_210211	HDPE (no PTFE)	20 mL	00352010059662	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED] CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 PRIMARY SAMPLER: [REDACTED] QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

018	0874_SW129_210211	Clear Plastic Bottle - Natural	500 mL	00071119271771	Green	No	
019	0874_QC104_210211	HDPE (no PTFE)	20 mL	00352010059579	Grey	No	
019	0874_QC104_210211	HDPE (no PTFE)	20 mL	00352010059614	Grey	No	
020	0874_QC105_210211	Clear Plastic Bottle - Natural	500 mL	00071119271789	Green	No	
020	0874_QC105_210211	HDPE (no PTFE)	20 mL	00352010059483	Grey	No	
020	0874_QC105_210211	HDPE (no PTFE)	20 mL	00352010059518	Grey	No	
020	0874_QC105_210211	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048285	Purple	No	
021	0874_QC302_210211	HDPE (no PTFE)	20 mL	00352010059746	Grey	No	
021	0874_QC302_210211	HDPE (no PTFE)	20 mL	00352010059590	Grey	No	
022	0874_QC502_210211	HDPE (no PTFE)	20 mL	00350019011628	Grey	No	
022	0874_QC502_210211	HDPE (no PTFE)	20 mL	00350019043531	Grey	No	

Total Bottle Count: ALS: 64, Non ALS: 0



Environmental Division
 Brisbane
 Work Order Reference
EB2103904



Telephone : +61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: ALD-0874-PPASMP Client: AECOM Project Manager: _____ *Ann*
 Phone: (_____) _____

ALS Compass COC Reference: 18919 # Samples: 23 Sampler: _____
 Phone: (_____) _____

Turnaround Requirements: Standard Urgent

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:

Date / Time: <u>12/2/21</u> <u>14:04</u>	Date / Time: <u>12/2/21</u> <u>14:04</u>	Date / Time:	Date / Time: <u>16.2.21</u> <u>08:30</u>

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFAASOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED] **SAMPLER MOBILE:** [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_210212		12/02/2021 12:25 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_SW118_210212		12/02/2021 12:39 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW115_210212		12/02/2021 12:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
004	0874_SW116_210212		12/02/2021 01:09 PM	Water	ALS: 4 Non ALS: 0	No	X		
005	0874_SW109_210212		12/02/2021 01:23 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
006	0874_SW108_210212		12/02/2021 01:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_SW112_210212		12/02/2021 11:26 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_SW123_210212		12/02/2021 09:04 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_SW125_210212		12/02/2021 08:48 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFASOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1
PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]
EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:
CONTACT PH: [REDACTED] **SAMPLER MOBILE:** [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW102_210212		12/02/2021 08:24 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_SW131_210212		12/02/2021 08:09 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_SW010_210212		12/02/2021 09:13 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_SW132_210212		12/02/2021 09:22 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_SW121_210212		12/02/2021 09:54 AM	Water	ALS: 4 Non ALS: 0	No	X		
015	0874_SW014_210212		12/02/2021 11:41 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_SW017_210212		12/02/2021 11:54 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_SW127_210212		12/02/2021 10:16 AM	Water	ALS: 4 Non ALS: 0	No	X		
018	0874_SW129_210212		12/02/2021 10:31 AM	Water	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

 DATE TIME:

RECEIVED BY:

 DATE TIME:

RELINQUISHED BY:

 DATE TIME:

RECEIVED BY:

 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 TURNAROUND REQUIREMENTS : 5 Days

 Biohazard info:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC106_210212		12/02/2021 09:54 AM	Water	ALS: 4 Non ALS: 0	No	X		
020	0874_QC107_210212		12/02/2021 11:25 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_QC303_210212		12/02/2021 01:38 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC503_210212		12/02/2021 06:44 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
023	0874_SW016_210212		12/02/2021 07:36 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW117_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW118_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW115_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW109_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW108_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW112_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW123_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW125_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW102_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW131_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW010_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW132_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW014_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
016	0874_SW017_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC107_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

021	0874_QC303_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC503_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW016_210212	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]

CONTACT PH: [REDACTED] **SAMPLER MOBILE:** [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001
EMAIL INVOICES TO: [REDACTED]

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_210212	HDPE (no PTFE)	20 mL	00352010059615	Grey	No	
001	0874_SW117_210212	HDPE (no PTFE)	20 mL	00352010059717	Grey	No	
001	0874_SW117_210212	HDPE (no PTFE)	20 mL	00352010059623	Grey	No	
001	0874_SW117_210212	HDPE (no PTFE)	20 mL	00352010059622	Grey	No	
002	0874_SW118_210212	HDPE (no PTFE)	20 mL	00352010059477	Grey	No	
002	0874_SW118_210212	HDPE (no PTFE)	20 mL	00352010059542	Grey	No	
003	0874_SW115_210212	HDPE (no PTFE)	20 mL	00352010059681	Grey	No	
003	0874_SW115_210212	HDPE (no PTFE)	20 mL	00352010059556	Grey	No	
004	0874_SW116_210212	HDPE (no PTFE)	20 mL	00352010059515	Grey	No	
004	0874_SW116_210212	HDPE (no PTFE)	20 mL	00352010059684	Grey	No	
004	0874_SW116_210212	Clear Plastic Bottle - Natural	500 mL	00071119271794	Green	No	
004	0874_SW116_210212	Amber DOC Filtered- Sulfuric Preserved	40 mL	00160220048357	Purple	No	
005	0874_SW109_210212	HDPE (no PTFE)	20 mL	00352010059654	Grey	No	
005	0874_SW109_210212	HDPE (no PTFE)	20 mL	00352010059494	Grey	No	
006	0874_SW108_210212	HDPE (no PTFE)	20 mL	00352010059665	Grey	No	
006	0874_SW108_210212	HDPE (no PTFE)	20 mL	00352010059748	Grey	No	
007	0874_SW112_210212	HDPE (no PTFE)	20 mL	00352010059558	Grey	No	
007	0874_SW112_210212	HDPE (no PTFE)	20 mL	00352010059719	Grey	No	
008	0874_SW123_210212	HDPE (no PTFE)	20 mL	00352010059642	Grey	No	
008	0874_SW123_210212	HDPE (no PTFE)	20 mL	00352010059525	Grey	No	
009	0874_SW125_210212	HDPE (no PTFE)	20 mL	00352010059680	Grey	No	
009	0874_SW125_210212	HDPE (no PTFE)	20 mL	00352010059624	Grey	No	
009	0874_SW125_210212	HDPE (no PTFE)	20 mL	00352010059767	Grey	No	
009	0874_SW125_210212	HDPE (no PTFE)	20 mL	00352010059492	Grey	No	
010	0874_SW102_210212	HDPE (no PTFE)	20 mL	00352010059543	Grey	No	
010	0874_SW102_210212	HDPE (no PTFE)	20 mL	00352010059555	Grey	No	

**CHAIN OF CUSTODY**

COC#: 18919 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

011	0874_SW131_210212	HDPE (no PTFE)	20 mL	00352010059745	Grey	No	
011	0874_SW131_210212	HDPE (no PTFE)	20 mL	00352010059770	Grey	No	
012	0874_SW010_210212	HDPE (no PTFE)	20 mL	00352010059571	Grey	No	
012	0874_SW010_210212	HDPE (no PTFE)	20 mL	00352010059683	Grey	No	
013	0874_SW132_210212	HDPE (no PTFE)	20 mL	00352010059541	Grey	No	
013	0874_SW132_210212	HDPE (no PTFE)	20 mL	00352010059610	Grey	No	
014	0874_SW121_210212	HDPE (no PTFE)	20 mL	00352010059611	Grey	No	
014	0874_SW121_210212	HDPE (no PTFE)	20 mL	00352010059738	Grey	No	
014	0874_SW121_210212	Clear Plastic Bottle - Natural	500 mL	00071119271758	Green	No	
014	0874_SW121_210212	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018053294	Purple	No	
015	0874_SW014_210212	HDPE (no PTFE)	20 mL	00352010059692	Grey	No	
015	0874_SW014_210212	HDPE (no PTFE)	20 mL	00352010059750	Grey	No	
015	0874_SW014_210212	HDPE (no PTFE)	20 mL	00352010059739	Grey	No	
015	0874_SW014_210212	HDPE (no PTFE)	20 mL	00352010059646	Grey	No	
016	0874_SW017_210212	HDPE (no PTFE)	20 mL	00352010059598	Grey	No	
016	0874_SW017_210212	HDPE (no PTFE)	20 mL	00352010059657	Grey	No	
016	0874_SW017_210212	HDPE (no PTFE)	20 mL	00352010059641	Grey	No	
016	0874_SW017_210212	HDPE (no PTFE)	20 mL	00352010059706	Grey	No	
017	0874_SW127_210212	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220027266	Purple	No	
017	0874_SW127_210212	HDPE (no PTFE)	20 mL	00352010059609	Grey	No	
017	0874_SW127_210212	HDPE (no PTFE)	20 mL	00352010059645	Grey	No	
017	0874_SW127_210212	Clear Plastic Bottle - Natural	500 mL	00071119271767	Green	No	
018	0874_SW129_210212	Clear Plastic Bottle - Natural	500 mL	00071119271783	Green	No	
018	0874_SW129_210212	Amber DOC Filtered- Sulfuric Preserved	40 mL	00181018053291	Purple	No	
018	0874_SW129_210212	HDPE (no PTFE)	20 mL	00352010059742	Grey	No	
018	0874_SW129_210212	HDPE (no PTFE)	20 mL	00352010059664	Grey	No	
019	0874_QC106_210212	Clear Plastic Bottle - Natural	500 mL	00071119271756	Green	No	

**CHAIN OF CUSTODY**

COC#: 18919

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

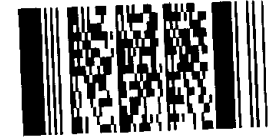
Other comments:

019	0874_QC106_210212	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220038968	Purple	No	
019	0874_QC106_210212	HDPE (no PTFE)	20 mL	00352010059735	Grey	No	
019	0874_QC106_210212	HDPE (no PTFE)	20 mL	00352010059765	Grey	No	
020	0874_QC107_210212	HDPE (no PTFE)	20 mL	00352010059488	Grey	No	
020	0874_QC107_210212	HDPE (no PTFE)	20 mL	00352010059479	Grey	No	
021	0874_QC303_210212	HDPE (no PTFE)	20 mL	00352010059529	Grey	No	
021	0874_QC303_210212	HDPE (no PTFE)	20 mL	00352010059573	Grey	No	
022	0874_QC503_210212	HDPE (no PTFE)	20 mL	00350019011565	Grey	No	
022	0874_QC503_210212	HDPE (no PTFE)	20 mL	00350019181589	Grey	No	
023	0874_SW016_210212	HDPE (no PTFE)	20 mL	00352010059620	Grey	No	
023	0874_SW016_210212	HDPE (no PTFE)	20 mL	00352010059669	Grey	No	
023	0874_SW016_210212	HDPE (no PTFE)	20 mL	00352010059727	Grey	No	
023	0874_SW016_210212	HDPE (no PTFE)	20 mL	00352010059632	Grey	No	

Total Bottle Count: ALS: 66, Non ALS: 0



Environmental Division
Brisbane
Work Order Reference
EB2104017



Telephone : - 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PPASOMP Client: AECOM

Project Manager:

Phone:

ALS Compass COG Reference: 18958 # Samples: 23

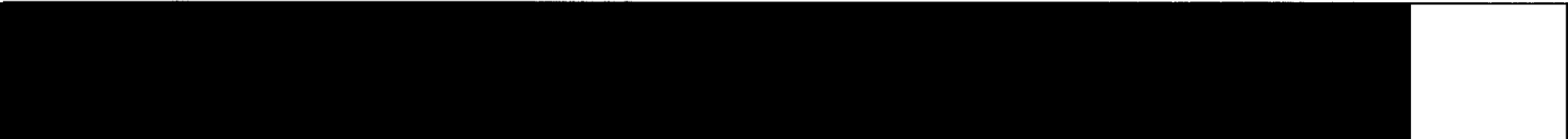
Sampler:

Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

Custody:



Date / Time	Date / Time	Date / Time	Date / Time
2:45 15/02/21	15/2/21 14:45		16.2.21 08:30

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW117_210213		13/02/2021 07:16 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_SW118_210213		13/02/2021 07:23 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW115_210213		13/02/2021 07:34 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
004	0874_SW116_210213		13/02/2021 07:49 AM	Water	ALS: 4 Non ALS: 0	No	X		
005	0874_SW109_210213		13/02/2021 08:12 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
006	0874_SW108_210213		13/02/2021 08:20 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_SW112_210213		13/02/2021 09:54 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_SW123_210213		13/02/2021 12:16 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_SW125_210213		13/02/2021 12:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		



CHAIN OF CUSTODY

COC#: 18958

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW102_210213		13/02/2021 11:49 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
011	0874_SW131_210213		13/02/2021 11:38 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_SW010_210213		13/02/2021 12:27 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_SW132_210213		13/02/2021 12:34 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_SW121_210213		13/02/2021 10:49 AM	Water	ALS: 4 Non ALS: 0	No	X		
015	0874_SW014_210213		13/02/2021 10:13 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
016	0874_SW017_210213		13/02/2021 10:23 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
017	0874_SW127_210213		13/02/2021 09:02 AM	Water	ALS: 4 Non ALS: 0	No	X		
018	0874_SW129_210213		13/02/2021 09:18 AM	Water	ALS: 4 Non ALS: 0	No	X		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC108_210213		13/02/2021 07:49 AM	Water	ALS: 4 Non ALS: 0	No	X		
020	0874_QC109_210213		13/02/2021 12:16 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_QC304_210213		13/02/2021 12:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC504_210213		13/02/2021 06:56 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
023	0874_SW016_210213		13/02/2021 11:14 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW117_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW118_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW115_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW109_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW108_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW112_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW123_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW125_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW102_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW131_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW010_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW132_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW014_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
016	0874_SW017_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC109_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 18958 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

021	0874_QC304_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC504_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW016_210213	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW117_210213	HDPE (no PTFE)	20 mL	00352010059643	Grey	No	
001	0874_SW117_210213	HDPE (no PTFE)	20 mL	00352010059634	Grey	No	
001	0874_SW117_210213	HDPE (no PTFE)	20 mL	00352010059595	Grey	No	
001	0874_SW117_210213	HDPE (no PTFE)	20 mL	00352010059670	Grey	No	
002	0874_SW118_210213	HDPE (no PTFE)	20 mL	00352010059604	Grey	No	
002	0874_SW118_210213	HDPE (no PTFE)	20 mL	00352010059523	Grey	No	
003	0874_SW115_210213	HDPE (no PTFE)	20 mL	00352010059758	Grey	No	
003	0874_SW115_210213	HDPE (no PTFE)	20 mL	00352010059761	Grey	No	
004	0874_SW116_210213	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065452	Purple	No	
004	0874_SW116_210213	HDPE (no PTFE)	20 mL	00352010059640	Grey	No	
004	0874_SW116_210213	HDPE (no PTFE)	20 mL	00352010059740	Grey	No	
004	0874_SW116_210213	Clear Plastic Bottle - Natural	500 mL	00070719080105	Green	No	
005	0874_SW109_210213	HDPE (no PTFE)	20 mL	00352010059651	Grey	No	
005	0874_SW109_210213	HDPE (no PTFE)	20 mL	00352010059484	Grey	No	
006	0874_SW108_210213	HDPE (no PTFE)	20 mL	00352010059550	Grey	No	
006	0874_SW108_210213	HDPE (no PTFE)	20 mL	00352010059511	Grey	No	
007	0874_SW112_210213	HDPE (no PTFE)	20 mL	00350019028912	Grey	No	
007	0874_SW112_210213	HDPE (no PTFE)	20 mL	00350019028794	Grey	No	
007	0874_SW112_210213	HDPE (no PTFE)	20 mL	00350019028680	Grey	No	
007	0874_SW112_210213	HDPE (no PTFE)	20 mL	00350019028941	Grey	No	
008	0874_SW123_210213	HDPE (no PTFE)	20 mL	00352010059671	Grey	No	
008	0874_SW123_210213	HDPE (no PTFE)	20 mL	00352010059588	Grey	No	
009	0874_SW125_210213	HDPE (no PTFE)	20 mL	00350019108542	Grey	No	
009	0874_SW125_210213	HDPE (no PTFE)	20 mL	00350019108462	Grey	No	
010	0874_SW102_210213	HDPE (no PTFE)	20 mL	00350019028906	Grey	No	
010	0874_SW102_210213	HDPE (no PTFE)	20 mL	00350019028655	Grey	No	



CHAIN OF CUSTODY

COC#: 18958

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

010	0874_SW102_210213	HDPE (no PTFE)	20 mL	00352005003384	Grey	No	
010	0874_SW102_210213	HDPE (no PTFE)	20 mL	00352005003581	Grey	No	
011	0874_SW131_210213	HDPE (no PTFE)	20 mL	00352010059507	Grey	No	
011	0874_SW131_210213	HDPE (no PTFE)	20 mL	00352010059493	Grey	No	
011	0874_SW131_210213	HDPE (no PTFE)	20 mL	00350019036364	Grey	No	
011	0874_SW131_210213	HDPE (no PTFE)	20 mL	00350019036425	Grey	No	
012	0874_SW010_210213	HDPE (no PTFE)	20 mL	00352010059704	Grey	No	
012	0874_SW010_210213	HDPE (no PTFE)	20 mL	00352010059599	Grey	No	
013	0874_SW132_210213	HDPE (no PTFE)	20 mL	00352005017702	Grey	No	
013	0874_SW132_210213	HDPE (no PTFE)	20 mL	00352005004931	Grey	No	
013	0874_SW132_210213	HDPE (no PTFE)	20 mL	00350019036214	Grey	No	
013	0874_SW132_210213	HDPE (no PTFE)	20 mL	00350019036232	Grey	No	
014	0874_SW121_210213	Clear Plastic Bottle - Natural	500 mL	00071119271757	Green	No	
014	0874_SW121_210213	HDPE (no PTFE)	20 mL	00352010059509	Grey	No	
014	0874_SW121_210213	HDPE (no PTFE)	20 mL	00352010059647	Grey	No	
014	0874_SW121_210213	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180220048269	Purple	No	
015	0874_SW014_210213	HDPE (no PTFE)	20 mL	00352010059491	Grey	No	
015	0874_SW014_210213	HDPE (no PTFE)	20 mL	00352010059578	Grey	No	
016	0874_SW017_210213	HDPE (no PTFE)	20 mL	00350019036227	Grey	No	
016	0874_SW017_210213	HDPE (no PTFE)	20 mL	00350019036447	Grey	No	
017	0874_SW127_210213	HDPE (no PTFE)	20 mL	00350019028900	Grey	No	
017	0874_SW127_210213	HDPE (no PTFE)	20 mL	00350019028665	Grey	No	
017	0874_SW127_210213	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065387	Purple	No	
017	0874_SW127_210213	Clear Plastic Bottle - Natural	500 mL	00070719080081	Green	No	
018	0874_SW129_210213	Clear Plastic Bottle - Natural	500 mL	00070719080035	Green	No	
018	0874_SW129_210213	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065391	Purple	No	
018	0874_SW129_210213	HDPE (no PTFE)	20 mL	00350019036239	Grey	No	

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

018	0874_SW129_210213	HDPE (no PTFE)	20 mL	00350019036380	Grey	No	
019	0874_QC108_210213	Amber DOC Filtered- Sulfuric Preserved	40 mL	00180820065367	Purple	No	
019	0874_QC108_210213	HDPE (no PTFE)	20 mL	00352010059636	Grey	No	
019	0874_QC108_210213	HDPE (no PTFE)	20 mL	00352010059760	Grey	No	
019	0874_QC108_210213	Clear Plastic Bottle - Natural	500 mL	00071119200766	Green	No	
020	0874_QC109_210213	HDPE (no PTFE)	20 mL	00350019036251	Grey	No	
020	0874_QC109_210213	HDPE (no PTFE)	20 mL	00350019036273	Grey	No	
021	0874_QC304_210213	HDPE (no PTFE)	20 mL	00352010059660	Grey	No	
021	0874_QC304_210213	HDPE (no PTFE)	20 mL	00352010059682	Grey	No	
022	0874_QC504_210213	HDPE (no PTFE)	20 mL	00352005002451	Grey	No	
022	0874_QC504_210213	HDPE (no PTFE)	20 mL	00350019100138	Grey	No	
023	0874_SW016_210213	HDPE (no PTFE)	20 mL	00352010059489	Grey	No	
023	0874_SW016_210213	HDPE (no PTFE)	20 mL	00352010059675	Grey	No	

Total Bottle Count: ALS: 66, Non ALS: 0

due 24/2/21

CHAIN OF CUSTODY DOCUMENTATION

CLIENT: **AECOM Australia** SAMPLER: [REDACTED]
 ADDRESS / OFFICE: **AECOM Townsville, level 5,7-13 Tamline St, South Townsville** MOBILE: [REDACTED]
 PROJECT MANAGER (PM): [REDACTED] PHONE: [REDACTED]
 PROJECT ID: **QLD_0874_PFA5OMP** EMAIL REPORT TO: [REDACTED]
 SITE: **QLD_0874** P.O. NO.: **60612487_2.1** EMAIL INVOICE TO: (if different to report) [REDACTED]

NMI

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO.: [REDACTED]
ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
 COOLER SEAL (circle appropriate)
 Intact: Yes No N/A
 SAMPLE TEMPERATURE
 CHILLED: Yes No
 COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
 Notes: e.g. Highly contaminated samples e.g. "High PAHs expected".
 Extra volume for QC or trace LORs etc.

AECOM/210217
 mv

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		WATER - PFAS Standard 28 analytes	DOC	TSS	Major ions (chloride, sulfate, bicarbonate, carbonate, calcium, magnesium, sodium and potassium)	HOLD	
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles						
	0874_QC200_210209	W	9/02/21		4P	4	X					N21/003838
	0874_QC201_210209	W	9/02/21		5P, 1SG	6	X	X	X	X		N21/003839
	0874_QC202_210210	W	10/02/21		2P	2	X					N21/003840
	0874_QC203_210210	W	10/02/21		5P, 1SG	6	X	X	X	X		N21/003841
	0874_QC204_210211	W	11/02/21		4P	4	X					N21/003842
	0874_QC205_210211	W	11/02/21		5P, 1SG	6	X	X	X	X		N21/003843
	0874_QC206_210212	W	12/02/21		5P, 1SG	6	X	X	X	X		N21/003844
	0874_QC207_210212	W	12/02/21		4P	4	X					N21/003845
	0874_QC208_210213	W	13/02/21		5P, 1SG	6	X	X	X	X		N21/003846
	0874_QC209_210213	W	13/02/21		4P	4	X					N21/003847

RECEIVED
 17 FEB 2021

RELINQUISHED BY: Name: [REDACTED] Time: **0800 14:00**
 RECEIVED BY: Name: [REDACTED] Date: **15/2/21**
 METHOD OF SHIPMENT: [REDACTED] Con' Note No: [REDACTED]
 Transport Co: [REDACTED]

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide/Cd Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved,
 V = VOA Vial HCl Preserved, VS = VOA Vial Sulphuric Preserved, SG = Sulfuric Preserved Amber Glass, H = HCl preserved Plastic, HS = HCl preserved Speciation bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass,
 Z = Zinc Acetate Preserved Bottle, E = EDTA Preserved Bottles, ST = Sterile Bottle, ASS = Plastic Bag for Acid Sulphate Soils, B = Unpreserved Bag.

Appendix E

Laboratory Analytical Reports



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2103614

Client : AECOM Australia Pty Ltd
Contact : [REDACTED]
Address : BRISBANE

Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

E-mail : [REDACTED]
Telephone : ----
Facsimile : ----

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 18713
Site : QLD_0874
Sampler : [REDACTED]

QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 11-Feb-2021 10:20
Client Requested Due Date : 18-Feb-2021

Issue Date : 11-Feb-2021
Scheduled Reporting Date : 18-Feb-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : Medium Esky

Security Seal : Intact.
Temperature : 7.8°C - Ice present
No. of samples received / analysed : 23 / 23

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***Samples were originally received by ALS TOWNSVILLE on 10/2/21 (2.1°C), and forwarded to ALS Brisbane for analysis.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA025H Suspended Solids - Standard Level	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2103614-001	09-Feb-2021 12:02	0874_SW117_210209			✓	
EB2103614-002	09-Feb-2021 12:24	0874_SW118_210209			✓	
EB2103614-003	09-Feb-2021 12:39	0874_SW115_210209			✓	
EB2103614-004	09-Feb-2021 12:54	0874_SW116_210209	✓	✓	✓	✓
EB2103614-005	09-Feb-2021 13:18	0874_SW109_210209			✓	
EB2103614-006	09-Feb-2021 13:31	0874_SW108_210209			✓	
EB2103614-007	09-Feb-2021 17:06	0874_SW010_210209			✓	
EB2103614-008	09-Feb-2021 17:42	0874_SW121_210209	✓	✓	✓	✓
EB2103614-009	09-Feb-2021 17:17	0874_SW132_210209			✓	
EB2103614-010	09-Feb-2021 17:10	0874_SW102_210209			✓	
EB2103614-011	09-Feb-2021 16:42	0874_SW131_210209			✓	
EB2103614-012	09-Feb-2021 16:15	0874_SW016_210209			✓	
EB2103614-013	09-Feb-2021 15:56	0874_SW125_210209			✓	
EB2103614-014	09-Feb-2021 15:25	0874_SW123_210209			✓	
EB2103614-015	09-Feb-2021 14:08	0874_SW112_210209			✓	
EB2103614-016	09-Feb-2021 18:29	0874_SW014_210209			✓	
EB2103614-017	09-Feb-2021 18:42	0874_SW017_210209			✓	
EB2103614-018	09-Feb-2021 18:57	0874_SW127_210209	✓	✓	✓	✓
EB2103614-019	09-Feb-2021 19:24	0874_SW129_210209	✓	✓	✓	✓
EB2103614-020	09-Feb-2021 12:25	0874_QC100_210209			✓	
EB2103614-021	09-Feb-2021 18:32	0874_QC500_210209			✓	
EB2103614-022	09-Feb-2021 18:33	0874_QC300_210209			✓	
EB2103614-023	09-Feb-2021 18:57	0874_QC101_210209	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2103614
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18713
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 17
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 11-Feb-2021 10:20
Date Analysis Commenced : 12-Feb-2021
Issue Date : 18-Feb-2021 18:06



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to sample matrix. LOR values have been adjusted accordingly.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210209	0874_SW118_210209	0874_SW115_210209	0874_SW116_210209	0874_SW109_210209
Sampling date / time				09-Feb-2021 12:02	09-Feb-2021 12:24	09-Feb-2021 12:39	09-Feb-2021 12:54	09-Feb-2021 13:18	
Compound	CAS Number	LOR	Unit	EB2103614-001	EB2103614-002	EB2103614-003	EB2103614-004	EB2103614-005	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	43	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	20	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	20	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	60	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	339	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	18	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	21	----	
Sodium	7440-23-5	1	mg/L	----	----	----	158	----	
Potassium	7440-09-7	1	mg/L	----	----	----	10	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	11.2	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	9.75	----	
∅ Ionic Balance	----	0.01	%	----	----	----	6.95	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	8	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	0.05	0.12	0.07	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.04	0.09	0.04	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.00	0.23	0.54	0.24	0.22	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	<0.02	0.03	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.29	0.63	0.76	0.66	0.39	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210209	0874_SW118_210209	0874_SW115_210209	0874_SW116_210209	0874_SW109_210209
Sampling date / time				09-Feb-2021 12:02	09-Feb-2021 12:24	09-Feb-2021 12:39	09-Feb-2021 12:54	09-Feb-2021 13:18	
Compound	CAS Number	LOR	Unit	EB2103614-001	EB2103614-002	EB2103614-003	EB2103614-004	EB2103614-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.17	0.04	0.05	0.03	0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.50	0.11	0.19	0.09	0.08	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.02	0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.16	0.04	0.03	0.02	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210209	0874_SW118_210209	0874_SW115_210209	0874_SW116_210209	0874_SW109_210209
Sampling date / time				09-Feb-2021 12:02	09-Feb-2021 12:24	09-Feb-2021 12:39	09-Feb-2021 12:54	09-Feb-2021 13:18	
Compound	CAS Number	LOR	Unit	EB2103614-001	EB2103614-002	EB2103614-003	EB2103614-004	EB2103614-005	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.84	1.16	1.83	1.15	0.83	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.29	0.86	1.30	0.90	0.61	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.61	1.12	1.71	1.11	0.79	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	103	112	104	97.1	
13C8-PFOA	----	0.02	%	106	107	98.5	95.1	85.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210209	0874_SW010_210209	0874_SW121_210209	0874_SW132_210209	0874_SW102_210209
Sampling date / time				09-Feb-2021 13:31	09-Feb-2021 17:06	09-Feb-2021 17:42	09-Feb-2021 17:17	09-Feb-2021 17:10	
Compound	CAS Number	LOR	Unit	EB2103614-006	EB2103614-007	EB2103614-008	EB2103614-009	EB2103614-010	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	73	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	77	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	77	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	18	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	39	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	17	----	----	
Magnesium	7439-95-4	1	mg/L	----	----	3	----	----	
Sodium	7440-23-5	1	mg/L	----	----	44	----	----	
Potassium	7440-09-7	1	mg/L	----	----	7	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	0.2	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	3.01	----	----	
∅ Total Cations	----	0.01	meq/L	----	----	3.19	----	----	
∅ Ionic Balance	----	0.01	%	----	----	2.82	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	23	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.06	0.11	0.22	0.12	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.05	0.07	0.17	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	0.45	0.46	1.16	0.33	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.03	0.10	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	2.88	1.26	3.05	0.41	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210209	0874_SW010_210209	0874_SW121_210209	0874_SW132_210209	0874_SW102_210209
Sampling date / time				09-Feb-2021 13:31	09-Feb-2021 17:06	09-Feb-2021 17:42	09-Feb-2021 17:17	09-Feb-2021 17:10	
Compound	CAS Number	LOR	Unit	EB2103614-006	EB2103614-007	EB2103614-008	EB2103614-009	EB2103614-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	0.1	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.18	0.10	0.15	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25	0.17	0.51	0.12	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.10	<0.02	0.09	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.14	0.04	0.16	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210209	0874_SW010_210209	0874_SW121_210209	0874_SW132_210209	0874_SW102_210209
Sampling date / time					09-Feb-2021 13:31	09-Feb-2021 17:06	09-Feb-2021 17:42	09-Feb-2021 17:17	09-Feb-2021 17:10
Compound	CAS Number	LOR	Unit		EB2103614-006	EB2103614-007	EB2103614-008	EB2103614-009	EB2103614-010
				Result	Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.14	4.25	2.34	5.81	1.10	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	3.33	1.72	4.21	0.74	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.14	4.16	2.24	5.54	1.04	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	120	109	104	109	97.5	
13C8-PFOA	----	0.02	%	105	109	100	105	84.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210209	0874_SW016_210209	0874_SW125_210209	0874_SW123_210209	0874_SW112_210209
Sampling date / time				09-Feb-2021 16:42	09-Feb-2021 16:15	09-Feb-2021 15:56	09-Feb-2021 15:25	09-Feb-2021 14:08	
Compound	CAS Number	LOR	Unit	EB2103614-011	EB2103614-012	EB2103614-013	EB2103614-014	EB2103614-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.27	0.03	3.39	0.35	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	0.02	3.32	0.30	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.52	0.15	23.7	2.19	0.07	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	<0.02	1.14	0.17	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.75	0.20	24.0	4.28	0.12	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	0.9	<0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.16	<0.02	1.48	0.19	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.65	0.05	8.59	0.71	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	<0.02	0.66	0.08	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.01	1.01	0.15	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.19	<0.09	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.19	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.19	<0.09	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210209	0874_SW016_210209	0874_SW125_210209	0874_SW123_210209	0874_SW112_210209
Sampling date / time				09-Feb-2021 16:42	09-Feb-2021 16:15	09-Feb-2021 15:56	09-Feb-2021 15:25	09-Feb-2021 14:08	
Compound	CAS Number	LOR	Unit	EB2103614-011	EB2103614-012	EB2103614-013	EB2103614-014	EB2103614-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.19	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.19	<0.09	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.08	<0.04	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.00	0.46	68.2	8.42	0.29	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.27	0.35	47.7	6.47	0.19	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.72	0.44	63.7	7.95	0.29	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	73.7	101	90.0	83.0	104	
13C8-PFOA	----	0.02	%	82.6	104	94.0	94.0	99.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210209	0874_SW017_210209	0874_SW127_210209	0874_SW129_210209	0874_QC100_210209
Sampling date / time				09-Feb-2021 18:29	09-Feb-2021 18:42	09-Feb-2021 18:57	09-Feb-2021 19:24	09-Feb-2021 12:25	
Compound	CAS Number	LOR	Unit	EB2103614-016	EB2103614-017	EB2103614-018	EB2103614-019	EB2103614-020	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	10	37	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	31	34	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	31	34	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	5	4	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	19	26	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	8	6	----	
Magnesium	7439-95-4	1	mg/L	----	----	2	3	----	
Sodium	7440-23-5	1	mg/L	----	----	15	24	----	
Potassium	7440-09-7	1	mg/L	----	----	4	3	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	<0.1	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	1.26	1.50	----	
∅ Total Cations	----	0.01	meq/L	----	----	1.32	1.67	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	9	9	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.23	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.02	<0.01	<0.01	0.65	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210209	0874_SW017_210209	0874_SW127_210209	0874_SW129_210209	0874_QC100_210209
Sampling date / time				09-Feb-2021 18:29	09-Feb-2021 18:42	09-Feb-2021 18:57	09-Feb-2021 19:24	09-Feb-2021 12:25	
Compound	CAS Number	LOR	Unit	EB2103614-016	EB2103614-017	EB2103614-018	EB2103614-019	EB2103614-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.12	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210209	0874_SW017_210209	0874_SW127_210209	0874_SW129_210209	0874_QC100_210209
Sampling date / time				09-Feb-2021 18:29	09-Feb-2021 18:42	09-Feb-2021 18:57	09-Feb-2021 19:24	09-Feb-2021 12:25	
Compound	CAS Number	LOR	Unit	EB2103614-016	EB2103614-017	EB2103614-018	EB2103614-019	EB2103614-020	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	0.25	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	0.02	<0.01	<0.01	1.45	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.02	<0.01	<0.01	0.88	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.02	<0.01	<0.01	1.41	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	97.5	113	104	106	
13C8-PFOA	----	0.02	%	105	96.2	106	101	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_210209	0874_QC300_210209	0874_QC101_210209	----	----
Sampling date / time				09-Feb-2021 18:32	09-Feb-2021 18:33	09-Feb-2021 18:57	----	----	
Compound	CAS Number	LOR	Unit	EB2103614-021	EB2103614-022	EB2103614-023	-----	-----	
				Result	Result	Result	----	----	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	12	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	33	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	33	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	4	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	18	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	8	----	----	
Magnesium	7439-95-4	1	mg/L	----	----	2	----	----	
Sodium	7440-23-5	1	mg/L	----	----	15	----	----	
Potassium	7440-09-7	1	mg/L	----	----	4	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	<0.1	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	1.25	----	----	
∅ Total Cations	----	0.01	meq/L	----	----	1.32	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	9	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_210209	0874_QC300_210209	0874_QC101_210209	----	----
Sampling date / time				09-Feb-2021 18:32	09-Feb-2021 18:33	09-Feb-2021 18:57	----	----	
Compound	CAS Number	LOR	Unit	EB2103614-021	EB2103614-022	EB2103614-023	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_210209	0874_QC300_210209	0874_QC101_210209	----	----
Sampling date / time				09-Feb-2021 18:32	09-Feb-2021 18:33	09-Feb-2021 18:57	----	----	
Compound	CAS Number	LOR	Unit	EB2103614-021	EB2103614-022	EB2103614-023	-----	-----	
				Result	Result	Result	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	106	100	----	----	
13C8-PFOA	----	0.02	%	107	106	103	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2103614
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFSOMP
Order number : 60612487_2.1
C-O-C number : 18713
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 11-Feb-2021
Date Analysis Commenced : 12-Feb-2021
Issue Date : 18-Feb-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Rows include Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3511031)									
EB2103614-004	0874_SW116_210209	EA025H: Suspended Solids (SS)	----	5	mg/L	43	42	0.00	No Limit
EB2103792-005	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3513762)									
EB2102075-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	376	382	1.85	0% - 20%
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	924	919	0.577	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1300	1300	0.130	0% - 20%
EB2103614-019	0874_SW129_210209	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	34	32	4.08	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	34	32	4.08	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3512425)									
EB2103615-023	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	9	9	0.00	No Limit
EB2103614-004	0874_SW116_210209	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	60	60	0.00	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3512426)									
EB2103614-004	0874_SW116_210209	ED045G: Chloride	16887-00-6	1	mg/L	339	340	0.00	0% - 20%
EB2103716-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	10	13	25.1	No Limit
ED093F: Dissolved Major Cations (QC Lot: 3508167)									
EB2103614-004	0874_SW116_210209	ED093F: Calcium	7440-70-2	1	mg/L	18	18	0.00	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	21	21	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	158	157	0.819	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	10	10	0.00	0% - 50%
ET2100679-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	38	38	0.00	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	29	29	0.00	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3508167) - continued									
ET2100679-001	Anonymous	ED093F: Sodium	7440-23-5	1	mg/L	233	232	0.659	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	14	14	0.00	0% - 50%
EK040P: Fluoride by PC Titrator (QC Lot: 3513763)									
EB2102075-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	5.5	5.6	0.00	0% - 20%
EB2103614-019	0874_SW129_210209	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3508449)									
EB2103614-004	0874_SW116_210209	EP002: Dissolved Organic Carbon	----	1	mg/L	8	8	0.00	No Limit
EB2103615-023	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	10	10	0.00	0% - 50%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3511671)									
EB2103614-003	0874_SW115_210209	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.76	0.82	7.06	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.12	0.13	10.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.09	0.09	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.54	0.56	3.54	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2103614-012	0874_SW016_210209	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.20	0.00	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.15	0.13	11.4	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3512878)									
EB2103614-022	0874_QC300_210209	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3511671)									
EB2103614-003	0874_SW115_210209	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.19	0.19	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3511671) - continued									
EB2103614-003	0874_SW115_210209	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2103614-012	0874_SW016_210209	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3512878)									
EB2103614-022	0874_QC300_210209	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3511671)							
EB2103614-003	0874_SW115_210209	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EB2103614-012	0874_SW016_210209	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3511671) - continued									
EB2103614-012	0874_SW016_210209	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3512878)									
EB2103614-022	0874_QC300_210209	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3511671)									
EB2103614-003	0874_SW115_210209	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103614-012	0874_SW016_210209	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3511671) - continued									
EB2103614-012	0874_SW016_210209	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3512878)									
EB2103614-022	0874_QC300_210209	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3511671)									
EB2103614-003	0874_SW115_210209	EP231X: Sum of PFAS	----	0.01	µg/L	1.83	1.92	4.80	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.30	1.38	5.97	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.71	1.80	5.13	0% - 20%
EB2103614-012	0874_SW016_210209	EP231X: Sum of PFAS	----	0.01	µg/L	0.46	0.42	9.09	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.35	0.33	5.88	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.44	0.42	4.65	0% - 20%
EP231P: PFAS Sums (QC Lot: 3512878)									
EB2103614-022	0874_QC300_210209	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3511031)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	106	88.0	112	
				<5	1000 mg/L	102	88.0	112	
				<5	951 mg/L	108	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3513762)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	50 mg/L	103	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3512425)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	104	85.0	118	
				<1	100 mg/L	96.6	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3512426)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	101	90.0	115	
				<1	1000 mg/L	106	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3508167)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.7	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.5	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3513763)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	100	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3508449)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	97.7	80.0	112	
				<1	100 mg/L	103	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3511671)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	95.1	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	97.4	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	89.5	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	93.1	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.8	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3512878)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	111	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	116	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	108	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	117	69.0	134	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3512878) - continued									
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	108	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	104	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3511671)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	111	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	89.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.0	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	94.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.4	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	97.3	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3512878)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	113	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	108	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	118	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511671)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	71.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	99.8	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	89.3	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	100	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.8	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	87.4	61.0	135	



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3512425)							
EB2103614-008	0874_SW121_210209	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	101	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3512426)							
EB2103614-008	0874_SW121_210209	ED045G: Chloride	16887-00-6	400 mg/L	115	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3513763)							
EB2102076-001	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	86.2	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3508449)							
EB2103614-008	0874_SW121_210209	EP002: Dissolved Organic Carbon	----	100 mg/L	101	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3511671)							
EB2103614-005	0874_SW109_210209	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	94.9	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	95.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	89.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHps)	375-92-8	0.238 µg/L	91.6	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	77.3	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	99.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3511671)							
EB2103614-005	0874_SW109_210209	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	84.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	99.8	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	96.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	91.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	85.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511671)							
EB2103614-005	0874_SW109_210209	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	64.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	94.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	95.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	105	65.0	136



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Recovery Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511671) - continued							
EB2103614-005	0874_SW109_210209	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	94.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3511671)							
EB2103614-005	0874_SW109_210209	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	101	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.1	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	109	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2103614	Page	: 1 of 7
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 11-Feb-2021
Site	: QLD_0874	Issue Date	: 18-Feb-2021
Sampler	: [REDACTED]	No. of samples received	: 23
Order number	: 60612487_2.1	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	23	4.35	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural (EA025H) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	15-Feb-2021	16-Feb-2021	✓
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	17-Feb-2021	23-Feb-2021	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	16-Feb-2021	09-Mar-2021	✓
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	16-Feb-2021	09-Mar-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	12-Feb-2021	16-Feb-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	17-Feb-2021	09-Mar-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_210209, 0874_SW127_210209, 0874_QC101_210209	0874_SW121_210209, 0874_SW129_210209,	09-Feb-2021	----	----	----	12-Feb-2021	09-Mar-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_210209, 0874_SW115_210209, 0874_SW109_210209, 0874_SW010_210209, 0874_SW132_210209, 0874_SW131_210209, 0874_SW125_210209, 0874_SW112_210209, 0874_SW017_210209, 0874_SW129_210209, 0874_QC500_210209, 0874_QC101_210209	0874_SW118_210209, 0874_SW116_210209, 0874_SW108_210209, 0874_SW121_210209, 0874_SW102_210209, 0874_SW016_210209, 0874_SW123_210209, 0874_SW014_210209, 0874_SW127_210209, 0874_QC100_210209, 0874_QC300_210209,	09-Feb-2021	16-Feb-2021	08-Aug-2021	✓	16-Feb-2021	08-Aug-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_210209, 0874_SW115_210209, 0874_SW109_210209, 0874_SW010_210209, 0874_SW132_210209, 0874_SW131_210209, 0874_SW125_210209, 0874_SW112_210209, 0874_SW017_210209, 0874_SW129_210209, 0874_QC500_210209, 0874_QC101_210209	0874_SW118_210209, 0874_SW116_210209, 0874_SW108_210209, 0874_SW121_210209, 0874_SW102_210209, 0874_SW016_210209, 0874_SW123_210209, 0874_SW014_210209, 0874_SW127_210209, 0874_QC100_210209, 0874_QC300_210209,	09-Feb-2021	16-Feb-2021	08-Aug-2021	✓	16-Feb-2021	08-Aug-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	23	13.04	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	12	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	3	12	25.00	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	1	12	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	23	4.35	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
---------------------	--------	--------	---------------------



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2103615

Client : AECOM Australia Pty Ltd
Contact :
Address : BRISBANE

Laboratory : Environmental Division Brisbane
Contact :
Address :

E-mail :
Telephone :
Facsimile :

E-mail :
Telephone :
Facsimile :

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 18785

QC Level : NEPM 2013 B3 & ALS QC Standard

Site : QLD_0874

Sampler :

Dates

Date Samples Received : 11-Feb-2021 10:20
Client Requested Due Date : 18-Feb-2021

Issue Date : 12-Feb-2021
Scheduled Reporting Date : 18-Feb-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : Medium Esky

Security Seal : Intact.
Temperature : 5.6°C - Ice present
No. of samples received / analysed : 23 / 23

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
*Samples were originally received by ALS TOWNSVILLE on 10/2/21 (11.3°C), and forwarded to ALS Brisbane for analysis.
12/02/21: SRN has been resent to acknowledge the addition of TSS and Cation/Anion analysis to Sample #19. For any further information regarding these adjustments please contact client services at
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA025H Suspended Solids - Standard Level	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2103615-001	10-Feb-2021 08:06	0874_SW117_210210			✓	
EB2103615-002	10-Feb-2021 08:28	0874_SW118_210210			✓	
EB2103615-003	10-Feb-2021 08:49	0874_SW115_210210			✓	
EB2103615-004	10-Feb-2021 08:58	0874_SW116_210210	✓	✓	✓	✓
EB2103615-005	10-Feb-2021 09:12	0874_SW109_210210			✓	
EB2103615-006	10-Feb-2021 09:29	0874_SW108_210210			✓	
EB2103615-007	10-Feb-2021 14:18	0874_SW010_210210			✓	
EB2103615-008	10-Feb-2021 14:43	0874_SW121_210210	✓	✓	✓	✓
EB2103615-009	10-Feb-2021 14:23	0874_SW132_210210			✓	
EB2103615-010	10-Feb-2021 10:28	0874_SW102_210210			✓	
EB2103615-011	10-Feb-2021 10:07	0874_SW131_210210			✓	
EB2103615-012	10-Feb-2021 10:47	0874_SW016_210210			✓	
EB2103615-013	10-Feb-2021 11:00	0874_SW125_210210			✓	
EB2103615-014	10-Feb-2021 11:33	0874_SW123_210210			✓	
EB2103615-015	10-Feb-2021 12:07	0874_SW112_210210			✓	
EB2103615-016	10-Feb-2021 12:37	0874_SW014_210210			✓	
EB2103615-017	10-Feb-2021 12:46	0874_SW017_210210			✓	
EB2103615-018	10-Feb-2021 13:01	0874_SW127_210210	✓	✓	✓	✓
EB2103615-019	10-Feb-2021 13:24	0874_SW129_210210	✓	✓	✓	✓
EB2103615-020	10-Feb-2021 10:29	0874_QC102_210210			✓	
EB2103615-021	10-Feb-2021 07:48	0874_QC501_210210			✓	
EB2103615-022	10-Feb-2021 14:10	0874_QC301_210210			✓	
EB2103615-023	10-Feb-2021 13:02	0874_QC103_210210	✓	✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2103615
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18785
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 17
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 11-Feb-2021 10:20
Date Analysis Commenced : 12-Feb-2021
Issue Date : 18-Feb-2021 18:08



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Ionic Balance out of acceptable limits due to analytes not quantified in this report.
- EP231X PFAS: Samples '0874_SW131_210210', '0874_SW125_210210' and '0874_SW123_210210' required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: The LOR of PFPeA for sample "0874_SW108_210210" has been raised due to sample matrix interferences.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210210	0874_SW118_210210	0874_SW115_210210	0874_SW116_210210	0874_SW109_210210
Sampling date / time				10-Feb-2021 08:06	10-Feb-2021 08:28	10-Feb-2021 08:49	10-Feb-2021 08:58	10-Feb-2021 09:12	
Compound	CAS Number	LOR	Unit	EB2103615-001	EB2103615-002	EB2103615-003	EB2103615-004	EB2103615-005	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	22	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	97	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	97	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	2010	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	14100	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	333	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	1030	----	
Sodium	7440-23-5	1	mg/L	----	----	----	8530	----	
Potassium	7440-09-7	1	mg/L	----	----	----	311	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.7	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	442	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	480	----	
∅ Ionic Balance	----	0.01	%	----	----	----	4.21	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	5	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.13	0.03	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.11	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.22	0.68	0.18	0.03	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.46	1.08	0.27	0.04	<0.01	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210210	0874_SW118_210210	0874_SW115_210210	0874_SW116_210210	0874_SW109_210210
Sampling date / time					10-Feb-2021 08:06	10-Feb-2021 08:28	10-Feb-2021 08:49	10-Feb-2021 08:58	10-Feb-2021 09:12
Compound	CAS Number	LOR	Unit	EB2103615-001	EB2103615-002	EB2103615-003	EB2103615-004	EB2103615-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.05	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.10	0.25	0.05	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210210	0874_SW118_210210	0874_SW115_210210	0874_SW116_210210	0874_SW109_210210
Sampling date / time					10-Feb-2021 08:06	10-Feb-2021 08:28	10-Feb-2021 08:49	10-Feb-2021 08:58	10-Feb-2021 09:12
Compound	CAS Number	LOR	Unit	EB2103615-001	EB2103615-002	EB2103615-003	EB2103615-004	EB2103615-005	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.93	2.41	0.57	0.07		<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.68	1.76	0.45	0.07		<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.89	2.26	0.54	0.07		<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	111	102	112		100
13C8-PFOA	----	0.02	%	108	106	105	105		107



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210210	0874_SW010_210210	0874_SW121_210210	0874_SW132_210210	0874_SW102_210210
Sampling date / time				10-Feb-2021 09:29	10-Feb-2021 14:18	10-Feb-2021 14:43	10-Feb-2021 14:23	10-Feb-2021 10:28	
Compound	CAS Number	LOR	Unit	EB2103615-006	EB2103615-007	EB2103615-008	EB2103615-009	EB2103615-010	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	15	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	73	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	73	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	9	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	30	----	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	20	----	----	
Magnesium	7439-95-4	1	mg/L	----	----	4	----	----	
Sodium	7440-23-5	1	mg/L	----	----	31	----	----	
Potassium	7440-09-7	1	mg/L	----	----	6	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	0.2	----	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	2.49	----	----	
∅ Total Cations	----	0.01	meq/L	----	----	2.83	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	24	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.06	0.20	0.14	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	0.06	0.17	0.12	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.65	0.42	1.03	0.76	0.40	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.06	0.06	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.64	2.24	1.91	1.91	0.43	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210210	0874_SW010_210210	0874_SW121_210210	0874_SW132_210210	0874_SW102_210210
Sampling date / time				10-Feb-2021 09:29	10-Feb-2021 14:18	10-Feb-2021 14:43	10-Feb-2021 14:23	10-Feb-2021 10:28	
Compound	CAS Number	LOR	Unit	EB2103615-006	EB2103615-007	EB2103615-008	EB2103615-009	EB2103615-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.03	0.12	0.13	0.16	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.16	0.19	0.36	0.39	0.12	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.06	0.03	0.09	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.10	0.06	0.14	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210210	0874_SW010_210210	0874_SW121_210210	0874_SW132_210210	0874_SW102_210210
Sampling date / time				10-Feb-2021 09:29	10-Feb-2021 14:18	10-Feb-2021 14:43	10-Feb-2021 14:23	10-Feb-2021 10:28	
Compound	CAS Number	LOR	Unit	EB2103615-006	EB2103615-007	EB2103615-008	EB2103615-009	EB2103615-010	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.67	3.53	4.05	3.87	1.15	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.29	2.66	2.94	2.67	0.83	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.56	3.44	3.82	3.69	1.09	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	114	103	105	102	
13C8-PFOA	----	0.02	%	106	105	101	104	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210210	0874_SW016_210210	0874_SW125_210210	0874_SW123_210210	0874_SW112_210210
Sampling date / time				10-Feb-2021 10:07	10-Feb-2021 10:47	10-Feb-2021 11:00	10-Feb-2021 11:33	10-Feb-2021 12:07	
Compound	CAS Number	LOR	Unit	EB2103615-011	EB2103615-012	EB2103615-013	EB2103615-014	EB2103615-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.40	0.07	0.94	0.39	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.50	0.08	0.96	0.40	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	3.83	0.54	6.55	2.39	0.07	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	0.03	0.43	0.19	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.89	0.96	14.9	3.67	0.11	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	0.4	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.30	0.05	0.53	0.23	0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.40	0.20	2.20	0.76	0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.13	0.02	0.18	0.08	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.25	0.04	0.30	0.16	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.05	<0.20	<0.09	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.05	<0.20	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.05	<0.20	<0.09	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210210	0874_SW016_210210	0874_SW125_210210	0874_SW123_210210	0874_SW112_210210
Sampling date / time				10-Feb-2021 10:07	10-Feb-2021 10:47	10-Feb-2021 11:00	10-Feb-2021 11:33	10-Feb-2021 12:07	
Compound	CAS Number	LOR	Unit	EB2103615-011	EB2103615-012	EB2103615-013	EB2103615-014	EB2103615-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.05	<0.20	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.05	<0.20	<0.09	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.02	<0.08	<0.04	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.08	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	11.1	1.99	27.4	8.47	0.27	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.72	1.50	21.4	6.06	0.18	
Sum of PFAS (WA DER List)	----	0.01	µg/L	10.4	1.88	26.0	7.88	0.27	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.0	110	86.0	99.0	111	
13C8-PFOA	----	0.02	%	101	99.9	102	109	108	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210210	0874_SW017_210210	0874_SW127_210210	0874_SW129_210210	0874_QC102_210210
Sampling date / time				10-Feb-2021 12:37	10-Feb-2021 12:46	10-Feb-2021 13:01	10-Feb-2021 13:24	10-Feb-2021 10:29	
Compound	CAS Number	LOR	Unit	EB2103615-016	EB2103615-017	EB2103615-018	EB2103615-019	EB2103615-020	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	15	45	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	52	32	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	52	32	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	9	4	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	52	26	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	16	6	----	
Magnesium	7439-95-4	1	mg/L	----	----	5	3	----	
Sodium	7440-23-5	1	mg/L	----	----	37	24	----	
Potassium	7440-09-7	1	mg/L	----	----	4	3	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	<0.1	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	2.69	1.46	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	1.66	----	
∅ Total Cations	----	0.01	meq/L	----	----	2.92	----	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	10	10	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.01	0.01	<0.01	0.44	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210210	0874_SW017_210210	0874_SW127_210210	0874_SW129_210210	0874_QC102_210210
Sampling date / time				10-Feb-2021 12:37	10-Feb-2021 12:46	10-Feb-2021 13:01	10-Feb-2021 13:24	10-Feb-2021 10:29	
Compound	CAS Number	LOR	Unit	EB2103615-016	EB2103615-017	EB2103615-018	EB2103615-019	EB2103615-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.13	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW014_210210	0874_SW017_210210	0874_SW127_210210	0874_SW129_210210	0874_QC102_210210
Sampling date / time				10-Feb-2021 12:37	10-Feb-2021 12:46	10-Feb-2021 13:01	10-Feb-2021 13:24	10-Feb-2021 10:29	
Compound	CAS Number	LOR	Unit	EB2103615-016	EB2103615-017	EB2103615-018	EB2103615-019	EB2103615-020	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	0.01	0.01	<0.01	1.14	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.01	0.01	<0.01	0.82	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.01	0.01	<0.01	1.08	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.4	90.4	106	112	105	
13C8-PFOA	----	0.02	%	104	101	106	106	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_QC501_210210	0874_QC301_210210	0874_QC103_210210	----	----
		Sampling date / time		10-Feb-2021 07:48	10-Feb-2021 14:10	10-Feb-2021 13:02	----	----
Compound	CAS Number	LOR	Unit	EB2103615-021	EB2103615-022	EB2103615-023	-----	-----
				Result	Result	Result	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	----	----	10	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	53	----	----
Total Alkalinity as CaCO3	----	1	mg/L	----	----	53	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	9	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	----	----	53	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	----	16	----	----
Magnesium	7439-95-4	1	mg/L	----	----	5	----	----
Sodium	7440-23-5	1	mg/L	----	----	36	----	----
Potassium	7440-09-7	1	mg/L	----	----	4	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	----	----	<0.1	----	----
EN055: Ionic Balance								
∅ Total Anions	----	0.01	meq/L	----	----	2.74	----	----
∅ Total Cations	----	0.01	meq/L	----	----	2.88	----	----
EP002: Dissolved Organic Carbon (DOC)								
Dissolved Organic Carbon	----	1	mg/L	----	----	10	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC501_210210	0874_QC301_210210	0874_QC103_210210	----	----
Sampling date / time				10-Feb-2021 07:48	10-Feb-2021 14:10	10-Feb-2021 13:02	----	----	
Compound	CAS Number	LOR	Unit	EB2103615-021	EB2103615-022	EB2103615-023	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC501_210210	0874_QC301_210210	0874_QC103_210210	----	----
Sampling date / time				10-Feb-2021 07:48	10-Feb-2021 14:10	10-Feb-2021 13:02	----	----	
Compound	CAS Number	LOR	Unit	EB2103615-021	EB2103615-022	EB2103615-023	-----	-----	
				Result	Result	Result	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	107	98.7	----	----	
13C8-PFOA	----	0.02	%	106	107	105	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2103615
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18785
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 11-Feb-2021
Date Analysis Commenced : 12-Feb-2021
Issue Date : 18-Feb-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3511120)									
EB2103611-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	9	9	0.00	No Limit
EB2103719-002	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	14	13	12.8	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3513762)									
EB2102075-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	376	382	1.85	0% - 20%
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	924	919	0.577	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	1300	1300	0.130	0% - 20%
EB2103614-019	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	34	32	4.08	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	34	32	4.08	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3512425)									
EB2103615-023	0874_QC103_210210	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	9	9	0.00	No Limit
EB2103614-004	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	60	60	0.00	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3512426)									
EB2103614-004	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	339	340	0.00	0% - 20%
EB2103716-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	10	13	25.1	No Limit
ED093F: Dissolved Major Cations (QC Lot: 3508167)									
EB2103614-004	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	18	18	0.00	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	21	21	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	158	157	0.819	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	10	10	0.00	0% - 50%
ET2100679-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	38	38	0.00	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	29	29	0.00	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3508167) - continued									
ET2100679-001	Anonymous	ED093F: Sodium	7440-23-5	1	mg/L	233	232	0.659	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	14	14	0.00	0% - 50%
ED093F: Dissolved Major Cations (QC Lot: 3509519)									
EB2103615-019	0874_SW129_210210	ED093F: Calcium	7440-70-2	1	mg/L	6	6	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	3	3	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	24	24	0.00	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.00	No Limit
EB2103883-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	69	68	2.54	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	20	20	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	444	436	1.90	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	99	98	0.00	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 3513763)									
EB2102075-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	5.5	5.6	0.00	0% - 20%
EB2103614-019	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3508449)									
EB2103614-004	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	8	8	0.00	No Limit
EB2103615-023	0874_QC103_210210	EP002: Dissolved Organic Carbon	----	1	mg/L	10	10	0.00	0% - 50%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3511673)									
EB2103615-003	0874_SW115_210210	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.27	0.26	0.00	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.18	0.18	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2103615-011	0874_SW131_210210	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.89	3.87	0.477	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.40	0.45	11.8	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.50	0.47	7.54	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	3.83	3.59	6.40	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	0.18	10.7	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3512879)									
EB2103615-005	0874_SW109_210210	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3511673)									
EB2103615-003	0874_SW115_210210	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.00	No Limit



Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3511673) - continued									
EB2103615-003	0874_SW115_210210	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.06	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2103615-011	0874_SW131_210210	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.25	0.24	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.30	0.31	4.82	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.40	1.42	1.63	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.13	0.13	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.10	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.3	0.00	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3512879)									
EB2103615-005	0874_SW109_210210	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3511673)									
EB2103615-003	0874_SW115_210210	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3511673) - continued									
EB2103615-003	0874_SW115_210210	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103615-011	0874_SW131_210210	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.10	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.10	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.10	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.10	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3512879)									
EB2103615-005	0874_SW109_210210	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3511673)									
EB2103615-003	0874_SW115_210210	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3511673) - continued									
EB2103615-003	0874_SW115_210210	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103615-011	0874_SW131_210210	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3512879)									
EB2103615-005	0874_SW109_210210	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3511673)									
EB2103615-003	0874_SW115_210210	EP231X: Sum of PFAS	----	0.01	µg/L	0.57	0.57	0.00	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.45	0.44	2.25	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.54	0.54	0.00	0% - 20%
EB2103615-011	0874_SW131_210210	EP231X: Sum of PFAS	----	0.01	µg/L	11.1	11.0	1.27	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.72	7.46	3.42	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	10.4	10.3	0.869	0% - 20%
EP231P: PFAS Sums (QC Lot: 3512879)									
EB2103615-005	0874_SW109_210210	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3511120)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	103	88.0	112	
				<5	1000 mg/L	99.8	88.0	112	
				<5	951 mg/L	108	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3513762)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	50 mg/L	103	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3512425)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	104	85.0	118	
				<1	100 mg/L	96.6	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3512426)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	101	90.0	115	
				<1	1000 mg/L	106	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3508167)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.7	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.5	70.0	130	
ED093F: Dissolved Major Cations (QCLot: 3509519)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	101	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	99.2	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	97.8	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3513763)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	100	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3508449)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	97.7	80.0	112	
				<1	100 mg/L	103	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3511673)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	99.9	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	103	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3512879)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	101	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	121	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	105	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	123	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	114	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	112	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3511673)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	121	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	103	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	100	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3512879)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	104	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	108	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	105	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	111	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511673)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	81.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	134	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	109	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511673) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3512879)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	116	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	110	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	111	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	119	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3511673)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	118	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	113	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3512879)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	105	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	129	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	124	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	100	64.2	133	
EP231P: PFAS Sums (QCLot: 3511673)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3512879)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%)	
					Low	High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3512425)							
EB2103614-008	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	101	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3512426)							
EB2103614-008	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	115	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3513763)							
EB2102076-001	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	86.2	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3508449)							
EB2103614-008	Anonymous	EP002: Dissolved Organic Carbon	----	100 mg/L	101	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3511673)							
EB2103615-013	0874_SW125_210210	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	88.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	83.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3511673)							
EB2103615-013	0874_SW125_210210	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	112	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	92.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	84.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	92.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	92.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	76.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	94.4	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511673)					
EB2103615-013	0874_SW125_210210	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	68.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	73.6	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3511673) - continued							
EB2103615-013	0874_SW125_210210	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	76.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	73.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	84.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	80.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3511673)							
EB2103615-013	0874_SW125_210210	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	85.5	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	88.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	78.7	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2103615	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 11-Feb-2021
Site	: QLD_0874	Issue Date	: 18-Feb-2021
Sampler	: [REDACTED]	No. of samples received	: 23
Order number	: 60612487_2.1	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2103615--013	0874_SW125_210210	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2103615--013	0874_SW125_210210	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2103615--013	0874_SW125_210210	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2103615--013	0874_SW125_210210	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2103615--013	0874_SW125_210210	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	23	4.35	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural (EA025H)								
0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	16-Feb-2021	17-Feb-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	17-Feb-2021	24-Feb-2021	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	16-Feb-2021	10-Mar-2021	✓
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	16-Feb-2021	10-Mar-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_QC103_210210	10-Feb-2021	----	----	----	12-Feb-2021	17-Feb-2021	✓
Clear Plastic Bottle - Natural (ED093F) 0874_SW129_210210		10-Feb-2021	----	----	----	16-Feb-2021	17-Feb-2021	✓
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	17-Feb-2021	10-Mar-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_210210, 0874_SW127_210210, 0874_QC103_210210	0874_SW121_210210, 0874_SW129_210210,	10-Feb-2021	----	----	----	12-Feb-2021	10-Mar-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW117_210210,	0874_SW118_210210,	10-Feb-2021	16-Feb-2021	09-Aug-2021	✓	16-Feb-2021	09-Aug-2021	✓
0874_SW115_210210,	0874_SW116_210210,							
0874_SW109_210210,	0874_SW108_210210,							
0874_SW010_210210,	0874_SW121_210210,							
0874_SW132_210210,	0874_SW102_210210,							
0874_SW131_210210,	0874_SW016_210210,							
0874_SW125_210210,	0874_SW123_210210,							
0874_SW112_210210,	0874_SW014_210210,							
0874_SW017_210210,	0874_SW127_210210,							
0874_SW129_210210,	0874_QC102_210210,							
0874_QC501_210210,	0874_QC301_210210,							
0874_QC103_210210								
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0874_SW117_210210,	0874_SW118_210210,	10-Feb-2021	16-Feb-2021	09-Aug-2021	✓	16-Feb-2021	09-Aug-2021	✓
0874_SW115_210210,	0874_SW116_210210,							
0874_SW109_210210,	0874_SW108_210210,							
0874_SW010_210210,	0874_SW121_210210,							
0874_SW132_210210,	0874_SW102_210210,							
0874_SW131_210210,	0874_SW016_210210,							
0874_SW125_210210,	0874_SW123_210210,							
0874_SW112_210210,	0874_SW014_210210,							
0874_SW017_210210,	0874_SW127_210210,							
0874_SW129_210210,	0874_QC102_210210,							
0874_QC501_210210,	0874_QC301_210210,							
0874_QC103_210210								



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	4	33	12.12	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	23	13.04	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	33	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	3	17	17.65	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	33	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	23	4.35	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
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<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2103815

Client : AECOM Australia Pty Ltd
Contact :
Address : BRISBANE

Laboratory : Environmental Division Brisbane
Contact :
Address :

E-mail :
Telephone :
Facsimile :

E-mail :
Telephone :
Facsimile :

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 18857

QC Level : NEPM 2013 B3 & ALS QC Standard

Site : QLD_0874

Sampler :

Dates

Date Samples Received : 12-Feb-2021 09:45
Client Requested Due Date : 19-Feb-2021

Issue Date : 12-Feb-2021
Scheduled Reporting Date : 19-Feb-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : MEDIUM ESKY

Security Seal : Intact.
Temperature : 3.9°C - Ice present
No. of samples received / analysed : 22 / 22

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA025H Suspended Solids - Standard Level	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2103815-001	11-Feb-2021 09:38	0874_SW117_210211			✓	
EB2103815-002	11-Feb-2021 09:52	0874_SW118_210211			✓	
EB2103815-003	11-Feb-2021 10:11	0874_SW115_210211			✓	
EB2103815-004	11-Feb-2021 10:24	0874_SW116_210211	✓	✓	✓	✓
EB2103815-005	11-Feb-2021 10:46	0874_SW109_210211			✓	
EB2103815-006	11-Feb-2021 10:55	0874_SW108_210211			✓	
EB2103815-007	11-Feb-2021 16:30	0874_SW112_210211			✓	
EB2103815-008	11-Feb-2021 14:05	0874_SW123_210211			✓	
EB2103815-009	11-Feb-2021 13:37	0874_SW125_210211			✓	
EB2103815-010	11-Feb-2021 15:14	0874_SW102_210211			✓	
EB2103815-011	11-Feb-2021 14:48	0874_SW131_210211			✓	
EB2103815-012	11-Feb-2021 14:17	0874_SW010_210211			✓	
EB2103815-013	11-Feb-2021 14:23	0874_SW132_210211			✓	
EB2103815-014	11-Feb-2021 13:08	0874_SW121_210211	✓	✓	✓	✓
EB2103815-015	11-Feb-2021 09:17	0874_SW014_210211			✓	
EB2103815-016	11-Feb-2021 12:36	0874_SW017_210211			✓	
EB2103815-017	11-Feb-2021 11:17	0874_SW127_210211	✓	✓	✓	✓
EB2103815-018	11-Feb-2021 11:40	0874_SW129_210211	✓	✓	✓	✓
EB2103815-019	11-Feb-2021 09:51	0874_QC104_210211			✓	
EB2103815-020	11-Feb-2021 11:55	0874_QC105_210211	✓	✓	✓	✓
EB2103815-021	11-Feb-2021 16:44	0874_QC302_210211			✓	
EB2103815-022	11-Feb-2021 12:42	0874_QC502_210211			✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2103815
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18857
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 22
No. of samples analysed : 22

Page : 1 of 16
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Feb-2021 09:45
Date Analysis Commenced : 12-Feb-2021
Issue Date : 19-Feb-2021 17:32



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Ionic Balance out of acceptable limits due to analytes not quantified in this report.
- EP231X PFAS: The FOSA LOR for '0874_SW125_210211' has been raised due to matrix interference.
- EP231X PFAS: The LORs for 6:2FTS and 8:2FTS for particular samples have been raised due to matrix interference.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210211	0874_SW118_210211	0874_SW115_210211	0874_SW116_210211	0874_SW109_210211
Sampling date / time				11-Feb-2021 09:38	11-Feb-2021 09:52	11-Feb-2021 10:11	11-Feb-2021 10:24	11-Feb-2021 10:46	
Compound	CAS Number	LOR	Unit	EB2103815-001	EB2103815-002	EB2103815-003	EB2103815-004	EB2103815-005	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	8	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	122	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	122	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	1600	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	11800	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	252	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	795	----	
Sodium	7440-23-5	1	mg/L	----	----	----	6660	----	
Potassium	7440-09-7	1	mg/L	----	----	----	246	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.7	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	369	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	374	----	
∅ Ionic Balance	----	0.01	%	----	----	----	0.72	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	7	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.62	0.14	0.11	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.56	0.13	0.10	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	3.34	0.83	0.69	0.13	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.24	0.04	0.03	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.79	1.19	0.74	0.14	<0.01	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210211	0874_SW118_210211	0874_SW115_210211	0874_SW116_210211	0874_SW109_210211
Sampling date / time				11-Feb-2021 09:38	11-Feb-2021 09:52	11-Feb-2021 10:11	11-Feb-2021 10:24	11-Feb-2021 10:46	
Compound	CAS Number	LOR	Unit	EB2103815-001	EB2103815-002	EB2103815-003	EB2103815-004	EB2103815-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.28	0.05	0.04	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.32	0.30	0.25	0.08	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.22	0.04	0.03	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.45	0.08	0.07	0.03	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210211	0874_SW118_210211	0874_SW115_210211	0874_SW116_210211	0874_SW109_210211
Sampling date / time				11-Feb-2021 09:38	11-Feb-2021 09:52	11-Feb-2021 10:11	11-Feb-2021 10:24	11-Feb-2021 10:46	
Compound	CAS Number	LOR	Unit	EB2103815-001	EB2103815-002	EB2103815-003	EB2103815-004	EB2103815-005	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.11	<0.12	<0.11	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	13.0	2.80	2.06	0.40	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.13	2.02	1.43	0.27	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	12.2	2.63	1.93	0.40	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	88.5	97.2	93.8	98.4	101	
13C8-PFOA	----	0.02	%	91.8	98.1	101	102	97.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210211	0874_SW112_210211	0874_SW123_210211	0874_SW125_210211	0874_SW102_210211
Sampling date / time				11-Feb-2021 10:55	11-Feb-2021 16:30	11-Feb-2021 14:05	11-Feb-2021 13:37	11-Feb-2021 15:14	
Compound	CAS Number	LOR	Unit	EB2103815-006	EB2103815-007	EB2103815-008	EB2103815-009	EB2103815-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	<0.02	0.20	2.22	0.12	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	<0.02	0.18	1.87	0.09	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.63	0.09	1.29	12.6	0.63	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	<0.02	0.14	1.12	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.66	0.10	3.42	40.4	0.40	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	0.9	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	<0.02	0.09	0.95	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.21	0.06	0.34	3.79	0.15	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.04	0.30	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.03	0.09	0.50	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.03	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210211	0874_SW112_210211	0874_SW123_210211	0874_SW125_210211	0874_SW102_210211
Sampling date / time				11-Feb-2021 10:55	11-Feb-2021 16:30	11-Feb-2021 14:05	11-Feb-2021 13:37	11-Feb-2021 15:14	
Compound	CAS Number	LOR	Unit	EB2103815-006	EB2103815-007	EB2103815-008	EB2103815-009	EB2103815-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.19	<0.09	<0.05	<0.11	<0.11	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.06	<0.07	<0.05	<0.06	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.81	0.28	5.89	64.6	1.48	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.29	0.19	4.71	53.0	1.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.70	0.28	5.57	61.7	1.37	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.2	97.6	91.7	102	103	
13C8-PFOA	----	0.02	%	97.7	98.6	97.6	104	99.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210211	0874_SW010_210211	0874_SW132_210211	0874_SW121_210211	0874_SW014_210211
Sampling date / time				11-Feb-2021 14:48	11-Feb-2021 14:17	11-Feb-2021 14:23	11-Feb-2021 13:08	11-Feb-2021 09:17	
Compound	CAS Number	LOR	Unit	EB2103815-011	EB2103815-012	EB2103815-013	EB2103815-014	EB2103815-015	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	<5	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	35	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	35	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	5	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	15	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	9	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	2	----	
Sodium	7440-23-5	1	mg/L	----	----	----	14	----	
Potassium	7440-09-7	1	mg/L	----	----	----	3	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	<0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	1.23	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	1.30	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	10	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.17	0.05	0.15	0.12	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.05	0.13	0.10	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.28	0.37	0.80	0.63	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	<0.02	0.05	0.04	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.30	1.71	2.37	1.40	0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210211	0874_SW010_210211	0874_SW132_210211	0874_SW121_210211	0874_SW014_210211
Sampling date / time				11-Feb-2021 14:48	11-Feb-2021 14:17	11-Feb-2021 14:23	11-Feb-2021 13:08	11-Feb-2021 09:17	
Compound	CAS Number	LOR	Unit	EB2103815-011	EB2103815-012	EB2103815-013	EB2103815-014	EB2103815-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.07	0.13	0.06	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.47	0.17	0.62	0.35	0.21	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.04	0.10	0.03	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.08	0.31	0.14	0.14	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210211	0874_SW010_210211	0874_SW132_210211	0874_SW121_210211	0874_SW014_210211
Sampling date / time				11-Feb-2021 14:48	11-Feb-2021 14:17	11-Feb-2021 14:23	11-Feb-2021 13:08	11-Feb-2021 09:17	
Compound	CAS Number	LOR	Unit	EB2103815-011	EB2103815-012	EB2103815-013	EB2103815-014	EB2103815-015	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.55	0.08	0.92	0.70	0.73	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.48	<0.05	0.44	0.23	0.40	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.90	2.62	6.12	3.80	1.50	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.58	2.08	3.17	2.03	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.66	2.57	5.94	3.66	1.50	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.5	115	116	111	93.7	
13C8-PFOA	----	0.02	%	104	101	99.0	99.1	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210211	0874_SW127_210211	0874_SW129_210211	0874_QC104_210211	0874_QC105_210211
Sampling date / time				11-Feb-2021 12:36	11-Feb-2021 11:17	11-Feb-2021 11:40	11-Feb-2021 09:51	11-Feb-2021 11:55	
Compound	CAS Number	LOR	Unit	EB2103815-016	EB2103815-017	EB2103815-018	EB2103815-019	EB2103815-020	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	6	82	----	70	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	<1	----	<1	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	<1	----	<1	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	11	67	----	58	
Total Alkalinity as CaCO3	----	1	mg/L	----	11	67	----	58	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	1	37	----	37	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	13	274	----	272	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	3	16	----	16	
Magnesium	7439-95-4	1	mg/L	----	<1	17	----	17	
Sodium	7440-23-5	1	mg/L	----	9	134	----	133	
Potassium	7440-09-7	1	mg/L	----	2	8	----	8	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	<0.1	0.1	----	0.1	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	0.61	9.84	----	9.60	
∅ Total Cations	----	0.01	meq/L	----	0.59	8.23	----	8.19	
∅ Ionic Balance	----	0.01	%	----	----	8.90	----	7.95	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	5	9	----	9	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.16	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.14	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.96	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	<0.01	0.01	1.53	0.08	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210211	0874_SW127_210211	0874_SW129_210211	0874_QC104_210211	0874_QC105_210211
Sampling date / time				11-Feb-2021 12:36	11-Feb-2021 11:17	11-Feb-2021 11:40	11-Feb-2021 09:51	11-Feb-2021 11:55	
Compound	CAS Number	LOR	Unit	EB2103815-016	EB2103815-017	EB2103815-018	EB2103815-019	EB2103815-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.08	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.06	<0.02	0.13	0.57	0.11	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.06	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.02	0.09	0.25	0.14	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210211	0874_SW127_210211	0874_SW129_210211	0874_QC104_210211	0874_QC105_210211
Sampling date / time				11-Feb-2021 12:36	11-Feb-2021 11:17	11-Feb-2021 11:40	11-Feb-2021 09:51	11-Feb-2021 11:55	
Compound	CAS Number	LOR	Unit	EB2103815-016	EB2103815-017	EB2103815-018	EB2103815-019	EB2103815-020	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.14	0.08	0.46	0.96	0.89	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.08	<0.05	0.18	0.39	1.78	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.33	0.10	0.87	5.15	3.00	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	<0.01	0.01	2.49	0.08	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.33	0.10	0.87	4.96	3.00	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	100	99.0	111	114	
13C8-PFOA	----	0.02	%	99.9	101	99.3	101	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_210211	0874_QC502_210211	----	----	----
Sampling date / time				11-Feb-2021 16:44	11-Feb-2021 12:42	----	----	----	
Compound	CAS Number	LOR	Unit	EB2103815-021	EB2103815-022	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_210211	0874_QC502_210211	----	----	----
Sampling date / time				11-Feb-2021 16:44	11-Feb-2021 12:42	----	----	----	
Compound	CAS Number	LOR	Unit	EB2103815-021	EB2103815-022	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	104	----	----	----	
13C8-PFOA	----	0.02	%	98.6	99.3	----	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2103815
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFSOMP
Order number : 60612487_2.1
C-O-C number : 18857
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 22
No. of samples analysed : 22

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Feb-2021
Date Analysis Commenced : 12-Feb-2021
Issue Date : 19-Feb-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3511630)									
EB2103757-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	10	8	30.1	No Limit
EB2103809-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	29	29	0.00	No Limit
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3511632)									
EB2103861-002	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	20	16	24.6	No Limit
EB2103832-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3516349)									
EB2103815-018	0874_SW129_210211	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	67	66	0.00	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	67	66	0.00	0% - 20%
EB2103449-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	223	218	2.50	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	223	218	2.50	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3509293)									
EB2103810-012	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	125	125	0.00	0% - 20%
EB2103810-025	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	2	2	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 3509294)									
EB2103810-012	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	2940	2910	1.06	0% - 20%
EB2103810-025	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	1980	2110	6.28	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 3509519)									
EB2103615-019	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	6	6	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	3	3	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	24	24	0.00	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3509519) - continued									
EB2103615-019	Anonymous	ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.00	No Limit
EB2103883-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	69	68	2.54	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	20	20	0.00	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	444	436	1.90	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	99	98	0.00	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 3516348)									
EB2103449-002	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.2	0.2	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3512444)									
EB2103815-004	0874_SW116_210211	EP002: Dissolved Organic Carbon	----	1	mg/L	7	8	0.00	No Limit
ET2100700-003	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	2	2	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3515925)									
EB2103815-003	0874_SW115_210211	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.74	0.80	7.04	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.12	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.10	0.10	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.69	0.66	4.43	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2103815-011	0874_SW131_210211	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.30	2.40	4.20	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.17	0.16	8.83	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.16	0.15	7.68	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.28	1.18	7.65	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.08	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3515926)									
EB2103815-015	0874_SW014_210211	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515925)									
EB2103815-003	0874_SW115_210211	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.05	34.8	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.25	0.20	23.5	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515925) - continued									
EB2103815-003	0874_SW115_210211	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2103815-011	0874_SW131_210211	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.19	48.2	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.08	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.47	0.55	15.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.06	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515926)									
EB2103815-015	0874_SW014_210211	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.14	0.00	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.21	0.27	25.3	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515925)									
EB2103815-003	0874_SW115_210211	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515925) - continued									
EB2103815-011	0874_SW131_210211	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515926)									
EB2103815-015	0874_SW014_210211	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515925)									
EB2103815-003	0874_SW115_210211	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.12	<0.05	82.4	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103815-011	0874_SW131_210211	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.55	<0.55	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515925) - continued									
EB2103815-011	0874_SW131_210211	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.48	<0.48	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515926)									
EB2103815-015	0874_SW014_210211	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.73	0.72	0.00	0% - 50%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.40	0.26	41.6	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3515925)									
EB2103815-003	0874_SW115_210211	EP231X: Sum of PFAS	----	0.01	µg/L	2.06	2.03	1.47	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.43	1.46	2.08	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.93	1.90	1.57	0% - 20%
EB2103815-011	0874_SW131_210211	EP231X: Sum of PFAS	----	0.01	µg/L	4.90	5.05	3.02	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.58	3.58	0.00	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.66	4.82	3.38	0% - 20%
EP231P: PFAS Sums (QC Lot: 3515926)									
EB2103815-015	0874_SW014_210211	EP231X: Sum of PFAS	----	0.01	µg/L	1.50	1.43	4.78	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.50	1.43	4.78	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3511630)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	104	88.0	112	
				<5	1000 mg/L	103	88.0	112	
				<5	951 mg/L	101	87.2	116	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3511632)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	100	88.0	112	
				<5	1000 mg/L	106	88.0	112	
				<5	951 mg/L	105	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3516349)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	98.9	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3509293)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	105	85.0	118	
				<1	100 mg/L	98.7	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3509294)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	100	90.0	115	
				<1	1000 mg/L	107	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3509519)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	101	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	99.2	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	97.8	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3516348)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	0.5 mg/L	98.0	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3512444)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	97.2	80.0	112	
				<1	100 mg/L	103	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515925)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	98.1	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	99.9	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	109	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	105	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	104	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515926)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515926) - continued									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	118	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	113	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	123	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	117	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515925)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	108	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	105	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515926)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	123	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	120	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	117	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	125	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	118	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515925)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	88.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.9	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.8	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515925) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	114	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	103	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515926)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	118	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	130	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	130	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	126	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	119	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	112	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3515925)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	126	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	108	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3515926)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	125	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	133	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	109	64.2	133	
EP231P: PFAS Sums (QCLot: 3515925)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3515926)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%)	
					Low	High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3509293)							
EB2103810-025	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	101	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3509294)							
EB2103810-025	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3516348)							
EB2103552-007	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	89.8	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3512444)							
EB2103815-014	0874_SW121_210211	EP002: Dissolved Organic Carbon	----	100 mg/L	106	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515925)							
EB2103815-005	0874_SW109_210211	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	99.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	95.8	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	93.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	97.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	90.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515925)							
EB2103815-005	0874_SW109_210211	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	116	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	91.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	88.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.3	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	90.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	101	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	94.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	101	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	98.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	102	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515925)					
EB2103815-005	0874_SW109_210211	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	76.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	97.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	112	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515925) - continued							
EB2103815-005	0874_SW109_210211	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	112	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3515925)							
EB2103815-005	0874_SW109_210211	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	107	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	98.1	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	127	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2103815	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 12-Feb-2021
Site	: QLD_0874	Issue Date	: 19-Feb-2021
Sampler	: [REDACTED]	No. of samples received	: 22
Order number	: 60612487_2.1	No. of samples analysed	: 22

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED045G: Chloride by Discrete Analyser	EB2103810--025	Anonymous	Chloride	16887-00-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	24	4.17	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural (EA025H)								
0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	16-Feb-2021	18-Feb-2021	✓
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P)								
0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	18-Feb-2021	25-Feb-2021	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G)								
0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	12-Feb-2021	11-Mar-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	12-Feb-2021	11-Mar-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	16-Feb-2021	18-Feb-2021	✓
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	18-Feb-2021	11-Mar-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_210211, 0874_SW127_210211, 0874_QC105_210211	0874_SW121_210211, 0874_SW129_210211,	11-Feb-2021	----	----	----	16-Feb-2021	11-Mar-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_210211, 0874_SW115_210211, 0874_SW109_210211, 0874_SW112_210211, 0874_SW125_210211, 0874_SW131_210211, 0874_SW132_210211, 0874_SW014_210211, 0874_SW127_210211, 0874_QC104_210211, 0874_QC302_210211,	0874_SW118_210211, 0874_SW116_210211, 0874_SW108_210211, 0874_SW123_210211, 0874_SW102_210211, 0874_SW010_210211, 0874_SW121_210211, 0874_SW017_210211, 0874_SW129_210211, 0874_QC105_210211, 0874_QC502_210211	11-Feb-2021	17-Feb-2021	10-Aug-2021	✓	17-Feb-2021	10-Aug-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW117_210211,	0874_SW118_210211,	11-Feb-2021	17-Feb-2021	10-Aug-2021	✓	17-Feb-2021	10-Aug-2021	✓
0874_SW115_210211,	0874_SW116_210211,							
0874_SW109_210211,	0874_SW108_210211,							
0874_SW112_210211,	0874_SW123_210211,							
0874_SW125_210211,	0874_SW102_210211,							
0874_SW131_210211,	0874_SW010_210211,							
0874_SW132_210211,	0874_SW121_210211,							
0874_SW014_210211,	0874_SW017_210211,							
0874_SW127_210211,	0874_SW129_210211,							
0874_QC104_210211,	0874_QC105_210211,							
0874_QC302_210211,	0874_QC502_210211							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0874_SW117_210211,	0874_SW118_210211,	11-Feb-2021	17-Feb-2021	10-Aug-2021	✓	17-Feb-2021	10-Aug-2021	✓
0874_SW115_210211,	0874_SW116_210211,							
0874_SW109_210211,	0874_SW108_210211,							
0874_SW112_210211,	0874_SW123_210211,							
0874_SW125_210211,	0874_SW102_210211,							
0874_SW131_210211,	0874_SW010_210211,							
0874_SW132_210211,	0874_SW121_210211,							
0874_SW014_210211,	0874_SW017_210211,							
0874_SW127_210211,	0874_SW129_210211,							
0874_QC104_210211,	0874_QC105_210211,							
0874_QC302_210211,	0874_QC502_210211							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW117_210211,	0874_SW118_210211,	11-Feb-2021	17-Feb-2021	10-Aug-2021	✓	17-Feb-2021	10-Aug-2021	✓
0874_SW115_210211,	0874_SW116_210211,							
0874_SW109_210211,	0874_SW108_210211,							
0874_SW112_210211,	0874_SW123_210211,							
0874_SW125_210211,	0874_SW102_210211,							
0874_SW131_210211,	0874_SW010_210211,							
0874_SW132_210211,	0874_SW121_210211,							
0874_SW014_210211,	0874_SW017_210211,							
0874_SW127_210211,	0874_SW129_210211,							
0874_QC104_210211,	0874_QC105_210211,							
0874_QC302_210211,	0874_QC502_210211							



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0874_SW117_210211, 0874_SW115_210211, 0874_SW109_210211, 0874_SW112_210211, 0874_SW125_210211, 0874_SW131_210211, 0874_SW132_210211, 0874_SW014_210211, 0874_SW127_210211, 0874_QC104_210211, 0874_QC302_210211,	0874_SW118_210211, 0874_SW116_210211, 0874_SW108_210211, 0874_SW123_210211, 0874_SW102_210211, 0874_SW010_210211, 0874_SW121_210211, 0874_SW017_210211, 0874_SW129_210211, 0874_QC105_210211, 0874_QC502_210211	11-Feb-2021	17-Feb-2021	10-Aug-2021	✓	17-Feb-2021	10-Aug-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	24	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	24	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	6	38	15.79	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	24	8.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	24	4.17	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
---------------------	--------	--------	---------------------



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2103904

Client : AECOM Australia Pty Ltd
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18919
Site : QLD_0874
Sampler : [Redacted]
Laboratory : Environmental Division Brisbane
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 12-Feb-2021 14:04
Issue Date : 15-Feb-2021
Client Requested Due Date : 22-Feb-2021
Scheduled Reporting Date : 22-Feb-2021

Delivery Details

Mode of Delivery : Client Drop Off
Security Seal : Intact.
No. of coolers/boxes : 1
Temperature : 6.3°C - Ice present
Receipt Detail : esky
No. of samples received / analysed : 23 / 23

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
EA025H, ED037-P, ED041G, ED045G, EK040P conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA025H Suspended Solids - Standard Level	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2103904-001	12-Feb-2021 12:25	0874_SW117_210212			✓	
EB2103904-002	12-Feb-2021 12:39	0874_SW118_210212			✓	
EB2103904-003	12-Feb-2021 12:52	0874_SW115_210212			✓	
EB2103904-004	12-Feb-2021 13:09	0874_SW116_210212	✓	✓	✓	✓
EB2103904-005	12-Feb-2021 13:23	0874_SW109_210212			✓	
EB2103904-006	12-Feb-2021 13:31	0874_SW108_210212			✓	
EB2103904-007	12-Feb-2021 11:26	0874_SW112_210212			✓	
EB2103904-008	12-Feb-2021 09:04	0874_SW123_210212			✓	
EB2103904-009	12-Feb-2021 08:48	0874_SW125_210212			✓	
EB2103904-010	12-Feb-2021 08:24	0874_SW102_210212			✓	
EB2103904-011	12-Feb-2021 08:09	0874_SW131_210212			✓	
EB2103904-012	12-Feb-2021 09:13	0874_SW010_210212			✓	
EB2103904-013	12-Feb-2021 09:22	0874_SW132_210212			✓	
EB2103904-014	12-Feb-2021 09:54	0874_SW121_210212	✓	✓	✓	✓
EB2103904-015	12-Feb-2021 11:41	0874_SW014_210212			✓	
EB2103904-016	12-Feb-2021 11:54	0874_SW017_210212			✓	
EB2103904-017	12-Feb-2021 10:16	0874_SW127_210212	✓	✓	✓	✓
EB2103904-018	12-Feb-2021 10:31	0874_SW129_210212	✓	✓	✓	✓
EB2103904-019	12-Feb-2021 09:54	0874_QC106_210212	✓	✓	✓	✓
EB2103904-020	12-Feb-2021 11:25	0874_QC107_210212			✓	
EB2103904-021	12-Feb-2021 13:38	0874_QC303_210212			✓	
EB2103904-022	12-Feb-2021 06:44	0874_QC503_210212			✓	
EB2103904-023	12-Feb-2021 07:36	0874_SW016_210212			✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2103904
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18919
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 16
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Feb-2021 14:04
Date Analysis Commenced : 17-Feb-2021
Issue Date : 22-Feb-2021 16:15



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Organic Chemist and Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFDS has been raised for sample '0874_SW125_210212' due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Method (ED041G) Sulfate results may bias low because of filtrate Colour
- EA025H, ED037-P, ED041G, ED045G, EK040P conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210212	0874_SW118_210212	0874_SW115_210212	0874_SW116_210212	0874_SW109_210212
Sampling date / time				12-Feb-2021 12:25	12-Feb-2021 12:39	12-Feb-2021 12:52	12-Feb-2021 13:09	12-Feb-2021 13:23	
Compound	CAS Number	LOR	Unit	EB2103904-001	EB2103904-002	EB2103904-003	EB2103904-004	EB2103904-005	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	46	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	66	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	66	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	168	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	1110	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	47	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	77	----	
Sodium	7440-23-5	1	mg/L	----	----	----	666	----	
Potassium	7440-09-7	1	mg/L	----	----	----	23	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.2	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	36.1	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	38.2	----	
∅ Ionic Balance	----	0.01	%	----	----	----	2.84	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	11	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.10	0.22	0.09	0.07	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.10	0.18	0.07	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.40	0.59	1.32	0.44	0.37	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	0.05	0.07	0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.98	1.29	1.46	0.56	0.47	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210212	0874_SW118_210212	0874_SW115_210212	0874_SW116_210212	0874_SW109_210212
Sampling date / time					12-Feb-2021 12:25	12-Feb-2021 12:39	12-Feb-2021 12:52	12-Feb-2021 13:09	12-Feb-2021 13:23
Compound	CAS Number	LOR	Unit	EB2103904-001	EB2103904-002	EB2103904-003	EB2103904-004	EB2103904-005	EB2103904-005
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.06	0.09	0.04	0.03	0.03
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.21	0.26	0.47	0.18	0.14	0.14
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.05	0.03	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.10	0.11	0.05	0.03	0.03
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210212	0874_SW118_210212	0874_SW115_210212	0874_SW116_210212	0874_SW109_210212
Sampling date / time					12-Feb-2021 12:25	12-Feb-2021 12:39	12-Feb-2021 12:52	12-Feb-2021 13:09	12-Feb-2021 13:23
Compound	CAS Number	LOR	Unit	EB2103904-001	EB2103904-002	EB2103904-003	EB2103904-004	EB2103904-005	EB2103904-005
				Result	Result	Result	Result	Result	Result
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.94	2.59	3.97	1.48	1.17	1.17
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.38	1.88	2.78	1.00	0.84	0.84
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.84	2.44	3.72	1.39	1.11	1.11
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.3	88.9	101	87.2	91.9	91.9
13C8-PFOA	----	0.02	%	97.3	98.1	111	98.2	99.5	99.5



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210212	0874_SW112_210212	0874_SW123_210212	0874_SW125_210212	0874_SW102_210212
Sampling date / time					12-Feb-2021 13:31	12-Feb-2021 11:26	12-Feb-2021 09:04	12-Feb-2021 08:48	12-Feb-2021 08:24
Compound	CAS Number	LOR	Unit		EB2103904-006	EB2103904-007	EB2103904-008	EB2103904-009	EB2103904-010
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L		0.08	<0.02	0.34	2.46	0.12
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L		0.07	<0.02	0.38	1.98	0.10
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L		0.48	0.09	2.47	8.24	0.68
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L		0.02	<0.02	0.30	1.07	0.03
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L		0.53	0.10	5.43	19.6	0.55
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L		<0.02	<0.02	<0.02	<0.06	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L		<0.1	<0.1	0.2	0.7	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L		0.03	<0.02	0.23	1.11	0.04
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L		0.15	0.05	0.86	4.09	0.17
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L		<0.02	<0.02	0.08	0.32	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L		0.02	0.02	0.21	0.56	0.03
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L		<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210212	0874_SW112_210212	0874_SW123_210212	0874_SW125_210212	0874_SW102_210212
Sampling date / time				12-Feb-2021 13:31	12-Feb-2021 11:26	12-Feb-2021 09:04	12-Feb-2021 08:48	12-Feb-2021 08:24	
Compound	CAS Number	LOR	Unit	EB2103904-006	EB2103904-007	EB2103904-008	EB2103904-009	EB2103904-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.38	0.26	10.5	40.1	1.72	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.01	0.19	7.90	27.8	1.23	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.29	0.26	9.82	37.1	1.59	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.4	88.3	79.0	91.0	97.4	
13C8-PFOA	----	0.02	%	99.9	96.0	84.7	99.5	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210212	0874_SW010_210212	0874_SW132_210212	0874_SW121_210212	0874_SW014_210212
Sampling date / time				12-Feb-2021 08:09	12-Feb-2021 09:13	12-Feb-2021 09:22	12-Feb-2021 09:54	12-Feb-2021 11:41	
Compound	CAS Number	LOR	Unit	EB2103904-011	EB2103904-012	EB2103904-013	EB2103904-014	EB2103904-015	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	<5	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	55	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	55	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	6	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	22	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	15	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	3	----	
Sodium	7440-23-5	1	mg/L	----	----	----	22	----	
Potassium	7440-09-7	1	mg/L	----	----	----	3	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	1.84	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	2.03	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	12	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.15	0.04	0.05	0.18		<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.15	0.04	0.04	0.14		<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.11	0.35	0.27	0.83		<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.09	0.03	<0.02	0.05		<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.92	1.97	1.04	1.18		<0.01



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210212	0874_SW010_210212	0874_SW132_210212	0874_SW121_210212	0874_SW014_210212
Sampling date / time					12-Feb-2021 08:09	12-Feb-2021 09:13	12-Feb-2021 09:22	12-Feb-2021 09:54	12-Feb-2021 11:41
Compound	CAS Number	LOR	Unit		EB2103904-011	EB2103904-012	EB2103904-013	EB2103904-014	EB2103904-015
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.09	0.06	0.03	0.07	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.42	0.14	0.11	0.24	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.05	0.02	0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.09	0.10	0.04	0.04	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210212	0874_SW010_210212	0874_SW132_210212	0874_SW121_210212	0874_SW014_210212
Sampling date / time				12-Feb-2021 08:09	12-Feb-2021 09:13	12-Feb-2021 09:22	12-Feb-2021 09:54	12-Feb-2021 11:41	
Compound	CAS Number	LOR	Unit	EB2103904-011	EB2103904-012	EB2103904-013	EB2103904-014	EB2103904-015	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.16	2.78	1.60	2.85	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.03	2.32	1.31	2.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.92	2.71	1.56	2.66	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	90.2	97.5	90.6	98.6	
13C8-PFOA	----	0.02	%	100	100	98.9	99.1	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210212	0874_SW127_210212	0874_SW129_210212	0874_QC106_210212	0874_QC107_210212
Sampling date / time					12-Feb-2021 11:54	12-Feb-2021 10:16	12-Feb-2021 10:31	12-Feb-2021 09:54	12-Feb-2021 11:25
Compound	CAS Number	LOR	Unit	EB2103904-016	EB2103904-017	EB2103904-018	EB2103904-019	EB2103904-020	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	<5	35	<5	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	<1	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	<1	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	75	54	57	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	75	54	57	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	8	9	6	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	42	54	23	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	19	10	15	----	
Magnesium	7439-95-4	1	mg/L	----	6	5	3	----	
Sodium	7440-23-5	1	mg/L	----	36	43	21	----	
Potassium	7440-09-7	1	mg/L	----	1	2	3	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	0.2	0.1	0.1	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	2.85	2.79	1.91	----	
∅ Total Cations	----	0.01	meq/L	----	3.03	2.83	1.98	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	9	8	13	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.17	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.13	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.77	0.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	<0.01	0.01	1.24	0.11	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210212	0874_SW127_210212	0874_SW129_210212	0874_QC106_210212	0874_QC107_210212
Sampling date / time				12-Feb-2021 11:54	12-Feb-2021 10:16	12-Feb-2021 10:31	12-Feb-2021 09:54	12-Feb-2021 11:25	
Compound	CAS Number	LOR	Unit	EB2103904-016	EB2103904-017	EB2103904-018	EB2103904-019	EB2103904-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.07	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.22	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.04	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210212	0874_SW127_210212	0874_SW129_210212	0874_QC106_210212	0874_QC107_210212
Sampling date / time				12-Feb-2021 11:54	12-Feb-2021 10:16	12-Feb-2021 10:31	12-Feb-2021 09:54	12-Feb-2021 11:25	
Compound	CAS Number	LOR	Unit	EB2103904-016	EB2103904-017	EB2103904-018	EB2103904-019	EB2103904-020	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	<0.01	0.01	2.79	0.29	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	<0.01	0.01	2.01	0.21	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	<0.01	0.01	2.61	0.29	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	96.7	94.9	94.5	95.9	
13C8-PFOA	----	0.02	%	96.9	100	98.0	95.3	98.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_210212	0874_QC503_210212	0874_SW016_210212	----	----
Sampling date / time				12-Feb-2021 13:38	12-Feb-2021 06:44	12-Feb-2021 07:36	----	----	
Compound	CAS Number	LOR	Unit	EB2103904-021	EB2103904-022	EB2103904-023	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.06	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.24	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_210212	0874_QC503_210212	0874_SW016_210212	----	----
Sampling date / time				12-Feb-2021 13:38	12-Feb-2021 06:44	12-Feb-2021 07:36	----	----	
Compound	CAS Number	LOR	Unit	EB2103904-021	EB2103904-022	EB2103904-023	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.30	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.30	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.30	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.1	97.4	94.9	----	----	
13C8-PFOA	----	0.02	%	96.1	94.0	97.5	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Townsville, NATA accreditation no. 825, site no. 23472 (Chemistry) 23313 (Biology).

(WATER) EA025: Total Suspended Solids dried at 104 ± 2°C

(WATER) ED045G: Chloride by Discrete Analyser

(WATER) ED041G: Sulfate (Turbidimetric) as SO₄ 2- by DA

(WATER) EK040P: Fluoride by PC Titrator

(WATER) ED037P: Alkalinity by PC Titrator



QUALITY CONTROL REPORT

Work Order : EB2103904
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18919
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Feb-2021
Date Analysis Commenced : 17-Feb-2021
Issue Date : 22-Feb-2021



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Rows include Senior Organic Chemist, Senior Inorganic Chemist, 2IC Organic Chemist, and Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3520161)									
EB2103904-004	0874_SW116_210212	EA025H: Suspended Solids (SS)	----	5	mg/L	46	38	19.0	No Limit
ET2100595-006	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	278	284	2.14	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 3514201)									
ET2100781-002	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	6	6	0.00	No Limit
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	6	6	0.00	No Limit
EB2103904-004	0874_SW116_210212	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	66	63	4.22	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	66	63	4.22	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3514271)									
EB2103904-004	0874_SW116_210212	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	168	167	0.638	0% - 20%
ET2100748-006	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	6	6	0.00	No Limit
ED045G: Chloride by Discrete Analyser (QC Lot: 3514272)									
EB2103904-004	0874_SW116_210212	ED045G: Chloride	16887-00-6	1	mg/L	1110	1120	0.568	0% - 20%
ET2100748-006	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	8	8	0.00	No Limit
ED093F: Dissolved Major Cations (QC Lot: 3514843)									
EB2103904-004	0874_SW116_210212	ED093F: Calcium	7440-70-2	1	mg/L	47	47	0.00	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	77	78	1.81	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	666	676	1.48	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	23	23	0.00	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 3514202)									
ET2100781-006	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK040P: Fluoride by PC Titrator (QC Lot: 3514202) - continued									
EB2103904-004	0874_SW116_210212	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.2	0.2	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3514856)									
EB2103904-004	0874_SW116_210212	EP002: Dissolved Organic Carbon	----	1	mg/L	11	10	0.00	0% - 50%
ET2100674-003	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	4	4	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3515788)									
EB2103904-009	0874_SW125_210212	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	19.6	22.9	15.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.46	2.73	10.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.98	2.04	3.14	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	8.24	9.30	12.1	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.07	1.28	17.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.06	<0.08	28.6	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3515789)									
EB2103904-015	0874_SW014_210212	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2103904-023	0874_SW016_210212	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.24	0.23	0.00	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.06	0.06	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515788)									
EB2103904-009	0874_SW125_210212	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.56	0.59	5.27	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.11	1.27	13.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.09	4.63	12.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.32	0.35	6.89	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.8	0.00	No Limit
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515789)							
EB2103904-015	0874_SW014_210212	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3515789) - continued									
EB2103904-015	0874_SW014_210212	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2103904-023	0874_SW016_210212	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515788)									
EB2103904-009	0874_SW125_210212	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515789)									
EB2103904-015	0874_SW014_210212	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3515789) - continued									
EB2103904-015	0874_SW014_210212	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103904-023	0874_SW016_210212	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515788)									
EB2103904-009	0874_SW125_210212	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515789)									
EB2103904-015	0874_SW014_210212	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2103904-023	0874_SW016_210212	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3515789) - continued									
EB2103904-023	0874_SW016_210212	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3515788)									
EB2103904-009	0874_SW125_210212	EP231X: Sum of PFAS	----	0.01	µg/L	40.1	45.9	13.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	27.8	32.2	14.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	37.1	42.6	13.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 3515789)									
EB2103904-015	0874_SW014_210212	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.01	0.00	No Limit
EB2103904-023	0874_SW016_210212	EP231X: Sum of PFAS	----	0.01	µg/L	0.30	0.29	3.39	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.30	0.29	3.39	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.30	0.29	3.39	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3520161)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	107	83.0	120	
				<5	1000 mg/L	99.6	83.0	120	
ED037P: Alkalinity by PC Titrator (QCLot: 3514201)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	103	90.0	110	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3514271)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	100 mg/L	91.3	85.0	115	
				<1	25 mg/L	99.1	85.0	115	
ED045G: Chloride by Discrete Analyser (QCLot: 3514272)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	102	85.0	115	
				<1	10 mg/L	96.4	85.0	115	
ED093F: Dissolved Major Cations (QCLot: 3514843)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	100	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	100	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	94.2	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3514202)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	99.4	90.0	110	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3514856)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	100	80.0	112	
				<1	100 mg/L	101	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515788)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.3	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	90.8	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	78.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	88.6	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	88.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	88.2	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515789)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	100	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	92.3	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	91.4	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	92.6	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	91.4	65.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515789) - continued									
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.0	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515788)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.6	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.6	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	96.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	101	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	90.6	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515789)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	86.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	84.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.4	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	91.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	84.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	86.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.8	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	94.6	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515788)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	108	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	91.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.3	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.6	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	97.8	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515789)									



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3514271)							
EB2103904-014	0874_SW121_210212	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	117	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3514272)							
EB2103904-014	0874_SW121_210212	ED045G: Chloride	16887-00-6	400 mg/L	118	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3514202)							
EB2103904-014	0874_SW121_210212	EK040P: Fluoride	16984-48-8	1.92 mg/L	116	80.0	120
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3514856)							
EB2103904-014	0874_SW121_210212	EP002: Dissolved Organic Carbon	----	100 mg/L	104	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3515789)							
EB2103904-016	0874_SW017_210212	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	96.3	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	88.3	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	85.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	90.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	88.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	85.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3515789)							
EB2103904-016	0874_SW017_210212	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	100	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.3	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	83.3	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	80.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	89.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	86.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	92.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	86.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.5	71.0	132		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515789)							
EB2103904-016	0874_SW017_210212	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	91.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	89.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	90.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	91.6	65.0	136

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 Work Order : EB2103904
 Client : AECOM Australia Pty Ltd
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Recovery Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3515789) - continued							
EB2103904-016	0874_SW017_210212	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	94.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3515789)							
EB2103904-016	0874_SW017_210212	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	93.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	94.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	95.8	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2103904	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 12-Feb-2021
Site	: QLD_0874	Issue Date	: 22-Feb-2021
Sampler	: [REDACTED]	No. of samples received	: 23
Order number	: 60612487_2.1	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_210212, 0874_SW127_210212, 0874_QC106_210212	0874_SW121_210212, 0874_SW129_210212,	12-Feb-2021	----	----	----	17-Feb-2021	12-Mar-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_210212, 0874_SW127_210212, 0874_QC106_210212	0874_SW121_210212, 0874_SW129_210212,	12-Feb-2021	----	----	----	18-Feb-2021	19-Feb-2021	✓
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_210212, 0874_SW127_210212, 0874_QC106_210212	0874_SW121_210212, 0874_SW129_210212,	12-Feb-2021	----	----	----	17-Feb-2021	12-Mar-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_210212, 0874_SW127_210212, 0874_QC106_210212	0874_SW121_210212, 0874_SW129_210212,	12-Feb-2021	----	----	----	17-Feb-2021	12-Mar-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW117_210212, 0874_SW115_210212, 0874_SW109_210212, 0874_SW112_210212, 0874_SW125_210212, 0874_SW131_210212, 0874_SW132_210212, 0874_SW014_210212, 0874_SW127_210212, 0874_QC106_210212, 0874_QC303_210212, 0874_SW016_210212	0874_SW118_210212, 0874_SW116_210212, 0874_SW108_210212, 0874_SW123_210212, 0874_SW102_210212, 0874_SW010_210212, 0874_SW121_210212, 0874_SW017_210212, 0874_SW129_210212, 0874_QC107_210212, 0874_QC503_210212,	12-Feb-2021	18-Feb-2021	11-Aug-2021	✓	18-Feb-2021	11-Aug-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	23	13.04	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	23	8.70	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	23	4.35	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the librated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
---------------------	--------	--------	---------------------



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2104017

Client : AECOM Australia Pty Ltd
Contact :
Address : BRISBANE

Laboratory : Environmental Division Brisbane
Contact :
Address :

E-mail :
Telephone :
Facsimile :

E-mail :
Telephone :
Facsimile :

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 18958

QC Level : NEPM 2013 B3 & ALS QC Standard

Site : QLD_0874

Sampler :

Dates

Date Samples Received : 16-Feb-2021 09:30
Client Requested Due Date : 23-Feb-2021

Issue Date : 16-Feb-2021
Scheduled Reporting Date : 23-Feb-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : MEDIUM ESKY

Security Seal : Intact.
Temperature : 9.3°C - Ice present
No. of samples received / analysed : 23 / 23

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA025H Suspended Solids - Standard Level	WATER - EP002 Dissolved Organic Carbon (DOC)	WATER - EP231X PFAS - Full Suite (28 analytes)	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride
EB2104017-001	13-Feb-2021 08:16	0874_SW117_210213			✓	
EB2104017-002	13-Feb-2021 08:23	0874_SW118_210213			✓	
EB2104017-003	13-Feb-2021 08:34	0874_SW115_210213			✓	
EB2104017-004	13-Feb-2021 08:49	0874_SW116_210213	✓	✓	✓	✓
EB2104017-005	13-Feb-2021 09:12	0874_SW109_210213			✓	
EB2104017-006	13-Feb-2021 09:20	0874_SW108_210213			✓	
EB2104017-007	13-Feb-2021 10:54	0874_SW112_210213			✓	
EB2104017-008	13-Feb-2021 13:16	0874_SW123_210213			✓	
EB2104017-009	13-Feb-2021 13:06	0874_SW125_210213			✓	
EB2104017-010	13-Feb-2021 12:49	0874_SW102_210213			✓	
EB2104017-011	13-Feb-2021 12:38	0874_SW131_210213			✓	
EB2104017-012	13-Feb-2021 13:27	0874_SW010_210213			✓	
EB2104017-013	13-Feb-2021 13:34	0874_SW132_210213			✓	
EB2104017-014	13-Feb-2021 11:49	0874_SW121_210213	✓	✓	✓	✓
EB2104017-015	13-Feb-2021 11:13	0874_SW014_210213			✓	
EB2104017-016	13-Feb-2021 11:23	0874_SW017_210213			✓	
EB2104017-017	13-Feb-2021 10:02	0874_SW127_210213	✓	✓	✓	✓
EB2104017-018	13-Feb-2021 10:18	0874_SW129_210213	✓	✓	✓	✓
EB2104017-019	13-Feb-2021 08:49	0874_QC108_210213	✓	✓	✓	✓
EB2104017-020	13-Feb-2021 13:16	0874_QC109_210213			✓	
EB2104017-021	13-Feb-2021 13:35	0874_QC304_210213			✓	
EB2104017-022	13-Feb-2021 07:56	0874_QC504_210213			✓	
EB2104017-023	13-Feb-2021 12:14	0874_SW016_210213			✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted content]

[Redacted content]

[Redacted content]

[Redacted content]

[Redacted content]



CERTIFICATE OF ANALYSIS

Work Order : EB2104017
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 18958
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 16
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 16-Feb-2021 09:30
Date Analysis Commenced : 18-Feb-2021
Issue Date : 23-Feb-2021 12:55



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Lists roles like Senior Organic Chemist, Senior Inorganic Chemist, Assistant Laboratory Manager, and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210213	0874_SW118_210213	0874_SW115_210213	0874_SW116_210213	0874_SW109_210213
Sampling date / time				13-Feb-2021 08:16	13-Feb-2021 08:23	13-Feb-2021 08:34	13-Feb-2021 08:49	13-Feb-2021 09:12	
Compound	CAS Number	LOR	Unit	EB2104017-001	EB2104017-002	EB2104017-003	EB2104017-004	EB2104017-005	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	<5	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	61	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	61	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	89	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	610	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	30	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	37	----	
Sodium	7440-23-5	1	mg/L	----	----	----	313	----	
Potassium	7440-09-7	1	mg/L	----	----	----	12	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.2	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	20.3	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	18.5	----	
∅ Ionic Balance	----	0.01	%	----	----	----	4.68	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	8	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.48	0.28	0.20	0.07	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.44	0.27	0.19	0.06	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.65	1.67	1.32	0.41	0.24	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	0.11	0.06	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.15	2.53	1.11	0.40	0.21	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210213	0874_SW118_210213	0874_SW115_210213	0874_SW116_210213	0874_SW109_210213
Sampling date / time				13-Feb-2021 08:16	13-Feb-2021 08:23	13-Feb-2021 08:34	13-Feb-2021 08:49	13-Feb-2021 09:12	
Compound	CAS Number	LOR	Unit	EB2104017-001	EB2104017-002	EB2104017-003	EB2104017-004	EB2104017-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.20	0.13	0.06	0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.91	0.54	0.33	0.11	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.18	0.12	0.05	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.35	0.22	0.07	0.03	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_210213	0874_SW118_210213	0874_SW115_210213	0874_SW116_210213	0874_SW109_210213
Sampling date / time				13-Feb-2021 08:16	13-Feb-2021 08:23	13-Feb-2021 08:34	13-Feb-2021 08:49	13-Feb-2021 09:12	
Compound	CAS Number	LOR	Unit	EB2104017-001	EB2104017-002	EB2104017-003	EB2104017-004	EB2104017-005	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	9.74	5.97	3.39	1.10	0.59	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.80	4.20	2.43	0.81	0.45	
Sum of PFAS (WA DER List)	----	0.01	µg/L	9.12	5.59	3.14	1.04	0.56	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.4	106	97.8	102	98.5	
13C8-PFOA	----	0.02	%	105	103	104	105	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210213	0874_SW112_210213	0874_SW123_210213	0874_SW125_210213	0874_SW102_210213
Sampling date / time				13-Feb-2021 09:20	13-Feb-2021 10:54	13-Feb-2021 13:16	13-Feb-2021 13:06	13-Feb-2021 12:49	
Compound	CAS Number	LOR	Unit	EB2104017-006	EB2104017-007	EB2104017-008	EB2104017-009	EB2104017-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.09	0.03	0.70	0.44	0.24	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	<0.02	0.75	0.36	0.22	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.55	0.12	4.18	2.63	1.44	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	0.53	0.15	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.46	0.10	5.82	3.53	0.67	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	<0.02	0.29	0.14	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.10	0.05	1.12	0.76	0.28	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.15	0.07	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.31	0.11	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW108_210213	0874_SW112_210213	0874_SW123_210213	0874_SW125_210213	0874_SW102_210213
Sampling date / time				13-Feb-2021 09:20	13-Feb-2021 10:54	13-Feb-2021 13:16	13-Feb-2021 13:06	13-Feb-2021 12:49	
Compound	CAS Number	LOR	Unit	EB2104017-006	EB2104017-007	EB2104017-008	EB2104017-009	EB2104017-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.34	0.32	14.0	8.19	3.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.01	0.22	10.0	6.16	2.11	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.25	0.32	12.8	7.68	2.74	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	102	102	95.4	100	
13C8-PFOA	----	0.02	%	103	106	104	102	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210213	0874_SW010_210213	0874_SW132_210213	0874_SW121_210213	0874_SW014_210213
Sampling date / time				13-Feb-2021 12:38	13-Feb-2021 13:27	13-Feb-2021 13:34	13-Feb-2021 11:49	13-Feb-2021 11:13	
Compound	CAS Number	LOR	Unit	EB2104017-011	EB2104017-012	EB2104017-013	EB2104017-014	EB2104017-015	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	----	----	8	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	108	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	108	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	10	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	----	----	62	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	----	----	29	----	
Magnesium	7439-95-4	1	mg/L	----	----	----	6	----	
Sodium	7440-23-5	1	mg/L	----	----	----	47	----	
Potassium	7440-09-7	1	mg/L	----	----	----	4	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	----	----	0.2	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	----	----	4.11	----	
∅ Total Cations	----	0.01	meq/L	----	----	----	4.09	----	
∅ Ionic Balance	----	0.01	%	----	----	----	0.33	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	----	----	16	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.17	0.10	0.74	0.25	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.17	0.10	0.71	0.19	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.46	0.83	3.58	1.07	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.09	0.05	0.29	0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.16	2.64	4.74	1.08	0.01	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210213	0874_SW010_210213	0874_SW132_210213	0874_SW121_210213	0874_SW014_210213
Sampling date / time				13-Feb-2021 12:38	13-Feb-2021 13:27	13-Feb-2021 13:34	13-Feb-2021 11:49	13-Feb-2021 11:13	
Compound	CAS Number	LOR	Unit	EB2104017-011	EB2104017-012	EB2104017-013	EB2104017-014	EB2104017-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.07	0.09	0.33	0.09	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.35	0.26	1.60	0.29	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.07	0.31	0.03	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.16	0.62	0.05	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_210213	0874_SW010_210213	0874_SW132_210213	0874_SW121_210213	0874_SW014_210213
Sampling date / time				13-Feb-2021 12:38	13-Feb-2021 13:27	13-Feb-2021 13:34	13-Feb-2021 11:49	13-Feb-2021 11:13	
Compound	CAS Number	LOR	Unit	EB2104017-011	EB2104017-012	EB2104017-013	EB2104017-014	EB2104017-015	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.58	4.30	13.1	3.20	0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.62	3.47	8.32	2.15	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.32	4.15	12.1	2.96	0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	99.1	104	97.3	101	
13C8-PFOA	----	0.02	%	104	105	104	99.2	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210213	0874_SW127_210213	0874_SW129_210213	0874_QC108_210213	0874_QC109_210213
Sampling date / time				13-Feb-2021 11:23	13-Feb-2021 10:02	13-Feb-2021 10:18	13-Feb-2021 08:49	13-Feb-2021 13:16	
Compound	CAS Number	LOR	Unit	EB2104017-016	EB2104017-017	EB2104017-018	EB2104017-019	EB2104017-020	
				Result	Result	Result	Result	Result	
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L	----	<5	22	<5	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	<1	<1	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	<1	<1	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	84	38	58	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	84	38	58	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	8	8	90	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	89	41	606	----	
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	----	24	8	29	----	
Magnesium	7439-95-4	1	mg/L	----	8	4	37	----	
Sodium	7440-23-5	1	mg/L	----	53	29	308	----	
Potassium	7440-09-7	1	mg/L	----	2	2	12	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	0.2	<0.1	0.2	----	
EN055: Ionic Balance									
∅ Total Anions	----	0.01	meq/L	----	4.36	2.08	20.1	----	
∅ Total Cations	----	0.01	meq/L	----	4.21	2.04	18.2	----	
∅ Ionic Balance	----	0.01	%	----	1.67	----	5.04	----	
EP002: Dissolved Organic Carbon (DOC)									
Dissolved Organic Carbon	----	1	mg/L	----	8	7	10	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.07	0.72	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.06	0.84	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	0.42	4.40	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.02	0.56	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	<0.01	<0.01	0.30	7.82	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210213	0874_SW127_210213	0874_SW129_210213	0874_QC108_210213	0874_QC109_210213
Sampling date / time				13-Feb-2021 11:23	13-Feb-2021 10:02	13-Feb-2021 10:18	13-Feb-2021 08:49	13-Feb-2021 13:16	
Compound	CAS Number	LOR	Unit	EB2104017-016	EB2104017-017	EB2104017-018	EB2104017-019	EB2104017-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.02	0.38	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.14	1.45	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.15	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.03	0.36	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_210213	0874_SW127_210213	0874_SW129_210213	0874_QC108_210213	0874_QC109_210213
Sampling date / time				13-Feb-2021 11:23	13-Feb-2021 10:02	13-Feb-2021 10:18	13-Feb-2021 08:49	13-Feb-2021 13:16	
Compound	CAS Number	LOR	Unit	EB2104017-016	EB2104017-017	EB2104017-018	EB2104017-019	EB2104017-020	
				Result	Result	Result	Result	Result	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	<0.01	<0.01	1.06	16.9	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	<0.01	<0.01	0.72	12.2	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	<0.01	<0.01	0.98	15.5	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.6	95.2	108	96.1	109	
13C8-PFOA	----	0.02	%	101	106	104	106	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC304_210213	0874_QC504_210213	0874_SW016_210213	----	----
				Sampling date / time	13-Feb-2021 13:35	13-Feb-2021 07:56	13-Feb-2021 12:14	----	----
Compound	CAS Number	LOR	Unit	EB2104017-021	EB2104017-022	EB2104017-023	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.08	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.22	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC304_210213	0874_QC504_210213	0874_SW016_210213	----	----
Sampling date / time				13-Feb-2021 13:35	13-Feb-2021 07:56	13-Feb-2021 12:14	----	----	
Compound	CAS Number	LOR	Unit	EB2104017-021	EB2104017-022	EB2104017-023	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.30	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.30	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.30	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.1	103	97.1	----	----	
13C8-PFOA	----	0.02	%	99.3	106	106	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2104017
Client : AECOM Australia Pty Ltd
Contact :
Address :
BRISBANE
Telephone :
Project : QLD_0874_PFSOMP
Order number : 60612487_2.1
C-O-C number : 18958
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 23
No. of samples analysed : 23

Page : 1 of 12
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 16-Feb-2021
Date Analysis Commenced : 18-Feb-2021
Issue Date : 23-Feb-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Rows include Senior Organic Chemist, Senior Inorganic Chemist, Assistant Laboratory Manager, and 2IC Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3519435)									
EB2103561-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	19	21	8.80	No Limit
EB2103564-002	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	49	52	4.98	0% - 50%
EA025: Total Suspended Solids dried at 104 ± 2°C (QC Lot: 3519436)									
EB2104307-002	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	16	17	0.00	No Limit
EB2104303-001	Anonymous	EA025H: Suspended Solids (SS)	----	5	mg/L	<5	<5	0.00	No Limit
ED037P: Alkalinity by PC Titrator (QC Lot: 3521220)									
EB2103727-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	68	66	2.10	0% - 20%
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	474	460	2.82	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	541	527	2.73	0% - 20%
EB2104380-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.00	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	100	100	0.00	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	100	100	0.00	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 3524997)									
EB2104017-004	0874_SW116_210213	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	89	90	0.00	0% - 20%
EB2104376-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	244	243	0.00	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 3524998)									
EB2104017-004	0874_SW116_210213	ED045G: Chloride	16887-00-6	1	mg/L	610	609	0.189	0% - 20%
EB2104376-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	13800	13700	0.638	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 3516542)									
EB2103299-011	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	25	25	0.00	0% - 20%
		ED093F: Magnesium	7439-95-4	1	mg/L	10	10	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	105	106	1.10	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
ED093F: Dissolved Major Cations (QC Lot: 3516542) - continued									
EB2103299-011	Anonymous	ED093F: Potassium	7440-09-7	1	mg/L	15	16	0.00	0% - 50%
EB2104199-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	3	3	0.00	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	3	3	0.00	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	1710	1680	2.14	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	29	28	0.00	0% - 20%
EK040P: Fluoride by PC Titrator (QC Lot: 3521221)									
EB2103727-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	1.3	1.3	0.00	0% - 50%
EB2104380-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.1	0.1	0.00	No Limit
EP002: Dissolved Organic Carbon (DOC) (QC Lot: 3517419)									
EB2103299-002	Anonymous	EP002: Dissolved Organic Carbon	----	1	mg/L	5	5	0.00	No Limit
EB2104017-017	0874_SW127_210213	EP002: Dissolved Organic Carbon	----	1	mg/L	8	8	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3519620)									
EB2104488-001	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3519621)									
EB2104017-001	0874_SW117_210213	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.15	4.04	2.72	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.48	0.43	9.95	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.44	0.45	0.00	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.65	2.70	1.98	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	0.18	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2104017-010	0874_SW102_210213	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.67	0.71	6.40	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.24	0.25	0.00	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.22	0.21	4.89	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.44	1.36	5.14	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3519620)									
EB2104488-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.40	0.42	6.61	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.24	0.24	0.00	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.10	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3519620) - continued									
EB2104488-001	Anonymous	EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3519621)									
EB2104017-001	0874_SW117_210213	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.35	0.35	0.00	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.20	0.19	5.50	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.91	0.88	4.15	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.18	0.18	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.00	No Limit
EB2104017-010	0874_SW102_210213	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.05	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.28	0.28	0.00	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3519620)									
EB2104488-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3519620) - continued									
EB2104488-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3519621)									
EB2104017-001	0874_SW117_210213	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2104017-010	0874_SW102_210213	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3519620)									
EB2104488-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	2.71	2.81	3.91	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.39	0.42	8.40	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3519621)									
EB2104017-001	0874_SW117_210213	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3519621) - continued									
EB2104017-001	0874_SW117_210213	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2104017-010	0874_SW102_210213	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3519620)									
EB2104488-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	4.00	4.06	1.49	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.00	4.06	1.49	0% - 20%
EP231P: PFAS Sums (QC Lot: 3519621)									
EB2104017-001	0874_SW117_210213	EP231X: Sum of PFAS	----	0.01	µg/L	9.74	9.60	1.45	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.80	6.74	0.886	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	9.12	8.97	1.66	0% - 20%
EB2104017-010	0874_SW102_210213	EP231X: Sum of PFAS	----	0.01	µg/L	3.01	2.98	1.00	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.11	2.07	1.91	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.74	2.72	0.733	0% - 20%



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3519435)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	100	88.0	112	
				<5	1000 mg/L	101	88.0	112	
				<5	951 mg/L	100	87.2	116	
EA025: Total Suspended Solids dried at 104 ± 2°C (QCLot: 3519436)									
EA025H: Suspended Solids (SS)	----	5	mg/L	<5	150 mg/L	98.9	88.0	112	
				<5	1000 mg/L	100.0	88.0	112	
				<5	951 mg/L	109	87.2	116	
ED037P: Alkalinity by PC Titrator (QCLot: 3521220)									
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	50 mg/L	104	80.0	120	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3524997)									
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	25 mg/L	105	85.0	118	
				<1	100 mg/L	92.5	85.0	118	
ED045G: Chloride by Discrete Analyser (QCLot: 3524998)									
ED045G: Chloride	16887-00-6	1	mg/L	<1	10 mg/L	98.0	90.0	115	
				<1	1000 mg/L	105	90.0	115	
ED093F: Dissolved Major Cations (QCLot: 3516542)									
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	99.0	70.0	130	
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.4	70.0	130	
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	98.5	70.0	130	
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	96.4	70.0	130	
EK040P: Fluoride by PC Titrator (QCLot: 3521221)									
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	10 mg/L	103	80.0	117	
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3517419)									
EP002: Dissolved Organic Carbon	----	1	mg/L	<1	10 mg/L	90.1	80.0	112	
				<1	100 mg/L	98.1	80.0	112	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3519620)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	96.5	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	99.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	123	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	89.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.9	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3519621)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3519621) - continued									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.9	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	101	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3519620)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	95.3	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.2	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	94.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	98.7	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3519621)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.5	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.8	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.2	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3519620)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.0	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	102	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.0	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3519620) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3519621)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	119	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.8	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	97.4	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	93.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.4	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3519620)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	98.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	111	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	93.3	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	97.7	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3519621)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	104	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	105	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	115	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	106	64.2	133	
EP231P: PFAS Sums (QCLot: 3519620)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3519621)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%)	
					Low	High	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 3524997)							
EB2104017-014	0874_SW121_210213	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	20 mg/L	107	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 3524998)							
EB2104017-014	0874_SW121_210213	ED045G: Chloride	16887-00-6	400 mg/L	112	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 3521221)							
EB2103728-001	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	89.2	70.0	130
EP002: Dissolved Organic Carbon (DOC) (QCLot: 3517419)							
EB2103299-004	Anonymous	EP002: Dissolved Organic Carbon	----	100 mg/L	99.5	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3519620)							
EB2104172-004	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	100	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	118	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	107	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	89.2	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	94.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3519621)							
EB2104017-007	0874_SW112_210213	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	117	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	124	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	125	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	96.6	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	94.0	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3519620)							
EB2104172-004	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	93.4	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.9	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	100.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	94.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	95.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	103	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	101	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	94.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	102	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3519621)					
EB2104017-007	0874_SW112_210213	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.2	73.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3519621) - continued							
EB2104017-007	0874_SW112_210213	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	96.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	93.7	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	112	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	99.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	98.9	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	97.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	89.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	92.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3519620)							
EB2104172-004	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	96.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	93.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	108	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	106	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	89.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3519621)							
EB2104017-007	0874_SW112_210213	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	120	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	115	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	86.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3519620)							
EB2104172-004	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	122	64.0	140

Page : 12 of 12
 Work Order : EB2104017
 Client : AECOM Australia Pty Ltd
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Recovery Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3519620) - continued							
EB2104172-004	Anonymous	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	108	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3519621)							
EB2104017-007	0874_SW112_210213	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	109	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	108	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2104017	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 16-Feb-2021
Site	: QLD_0874	Issue Date	: 23-Feb-2021
Sampler	: [REDACTED]	No. of samples received	: 23
Order number	: 60612487_2.1	No. of samples analysed	: 23

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	3	33	9.09	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA025: Total Suspended Solids dried at 104 ± 2°C								
Clear Plastic Bottle - Natural (EA025H) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	19-Feb-2021	20-Feb-2021	✓
ED037P: Alkalinity by PC Titrator								
Clear Plastic Bottle - Natural (ED037-P) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	19-Feb-2021	27-Feb-2021	✓
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Clear Plastic Bottle - Natural (ED041G) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	22-Feb-2021	13-Mar-2021	✓
ED045G: Chloride by Discrete Analyser								
Clear Plastic Bottle - Natural (ED045G) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	22-Feb-2021	13-Mar-2021	✓
ED093F: Dissolved Major Cations								
Clear Plastic Bottle - Natural (ED093F) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	18-Feb-2021	20-Feb-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EK040P: Fluoride by PC Titrator								
Clear Plastic Bottle - Natural (EK040P) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	19-Feb-2021	13-Mar-2021	✓
EP002: Dissolved Organic Carbon (DOC)								
Amber DOC Filtered- Sulfuric Preserved (EP002) 0874_SW116_210213, 0874_SW127_210213, 0874_QC108_210213	0874_SW121_210213, 0874_SW129_210213,	13-Feb-2021	----	----	----	18-Feb-2021	13-Mar-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210213, 0874_QC109_210213, 0874_QC504_210213,	0874_QC108_210213, 0874_QC304_210213, 0874_SW016_210213	13-Feb-2021	20-Feb-2021	12-Aug-2021	✓	20-Feb-2021	12-Aug-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210213, 0874_SW115_210213, 0874_SW109_210213, 0874_SW112_210213, 0874_SW125_210213, 0874_SW131_210213, 0874_SW132_210213, 0874_SW014_210213, 0874_SW127_210213	0874_SW118_210213, 0874_SW116_210213, 0874_SW108_210213, 0874_SW123_210213, 0874_SW102_210213, 0874_SW010_210213, 0874_SW121_210213, 0874_SW017_210213,	13-Feb-2021	22-Feb-2021	12-Aug-2021	✓	22-Feb-2021	12-Aug-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210213, 0874_QC109_210213, 0874_QC504_210213,	0874_QC108_210213, 0874_QC304_210213, 0874_SW016_210213	13-Feb-2021	20-Feb-2021	12-Aug-2021	✓	20-Feb-2021	12-Aug-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210213, 0874_SW115_210213, 0874_SW109_210213, 0874_SW112_210213, 0874_SW125_210213, 0874_SW131_210213, 0874_SW132_210213, 0874_SW014_210213, 0874_SW127_210213	0874_SW118_210213, 0874_SW116_210213, 0874_SW108_210213, 0874_SW123_210213, 0874_SW102_210213, 0874_SW010_210213, 0874_SW121_210213, 0874_SW017_210213,	13-Feb-2021	22-Feb-2021	12-Aug-2021	✓	22-Feb-2021	12-Aug-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW129_210213, 0874_QC109_210213, 0874_QC504_210213,	0874_QC108_210213, 0874_QC304_210213, 0874_SW016_210213	13-Feb-2021	20-Feb-2021	12-Aug-2021	✓	20-Feb-2021	12-Aug-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210213, 0874_SW115_210213, 0874_SW109_210213, 0874_SW112_210213, 0874_SW125_210213, 0874_SW131_210213, 0874_SW132_210213, 0874_SW014_210213, 0874_SW127_210213	0874_SW118_210213, 0874_SW116_210213, 0874_SW108_210213, 0874_SW123_210213, 0874_SW102_210213, 0874_SW010_210213, 0874_SW121_210213, 0874_SW017_210213,	13-Feb-2021	22-Feb-2021	12-Aug-2021	✓	22-Feb-2021	12-Aug-2021	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210213, 0874_QC109_210213, 0874_QC504_210213,	0874_QC108_210213, 0874_QC304_210213, 0874_SW016_210213	13-Feb-2021	20-Feb-2021	12-Aug-2021	✓	20-Feb-2021	12-Aug-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210213, 0874_SW115_210213, 0874_SW109_210213, 0874_SW112_210213, 0874_SW125_210213, 0874_SW131_210213, 0874_SW132_210213, 0874_SW014_210213, 0874_SW127_210213	0874_SW118_210213, 0874_SW116_210213, 0874_SW108_210213, 0874_SW123_210213, 0874_SW102_210213, 0874_SW010_210213, 0874_SW121_210213, 0874_SW017_210213,	13-Feb-2021	22-Feb-2021	12-Aug-2021	✓	22-Feb-2021	12-Aug-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW129_210213, 0874_QC109_210213, 0874_QC504_210213,	0874_QC108_210213, 0874_QC304_210213, 0874_SW016_210213	13-Feb-2021	20-Feb-2021	12-Aug-2021	✓	20-Feb-2021	12-Aug-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210213, 0874_SW115_210213, 0874_SW109_210213, 0874_SW112_210213, 0874_SW125_210213, 0874_SW131_210213, 0874_SW132_210213, 0874_SW014_210213, 0874_SW127_210213	0874_SW118_210213, 0874_SW116_210213, 0874_SW108_210213, 0874_SW123_210213, 0874_SW102_210213, 0874_SW010_210213, 0874_SW121_210213, 0874_SW017_210213,	13-Feb-2021	22-Feb-2021	12-Aug-2021	✓	22-Feb-2021	12-Aug-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity by PC Titrator	ED037-P	2	18	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	10	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	33	9.09	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	4	36	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by PC Titrator	ED037-P	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	6	36	16.67	15.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Suspended Solids (High Level)	EA025H	2	36	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Chloride by Discrete Analyser	ED045G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Organic Carbon	EP002	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by PC Titrator	EK040P	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspended Solids (High Level)	EA025H	WATER	In house: Referenced to APHA 2540D. A gravimetric procedure employed to determine the amount of 'non-filterable' residue in a aqueous sample. The prescribed GFC (1.2um) filter is rinsed with deionised water, oven dried and weighed prior to analysis. A well-mixed sample is filtered through a glass fibre filter (1.2um). The residue on the filter paper is dried at 104+/-2C . This method is compliant with NEPM Schedule B(3)
Alkalinity by PC Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride.in the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm APHA seal method 2 017-1-L
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Fluoride by PC Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030F. This method is compliant with NEPM Schedule B(3)
Dissolved Organic Carbon	EP002	WATER	In house: Referenced to APHA 5310 B. This method is compliant with NEPM Schedule B(3). Samples are combusted at high temperature in the presence of an oxidative catalyst. The evolved carbon dioxide is quantified using an IR detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	Method	Matrix	Method Descriptions
---------------------	--------	--------	---------------------



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/210217

Total No. of Samples: 10

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/003838	24-FEB-2021	0874_QC200_210209	WATER 9/02/21
N21/003839	24-FEB-2021	0874_QC201_210209	WATER 9/02/21
N21/003840	24-FEB-2021	0874_QC202_210210	WATER 10/02/21
N21/003841	24-FEB-2021	0874_QC203_210210	WATER 10/02/21
N21/003842	24-FEB-2021	0874_QC204_210211	WATER 11/02/21
N21/003843	24-FEB-2021	0874_QC205_210211	WATER 11/02/21
N21/003844	24-FEB-2021	0874_QC206_210212	WATER 12/02/21
N21/003845	24-FEB-2021	0874_QC207_210212	WATER 12/02/21
N21/003846	24-FEB-2021	0874_QC208_210213	WATER 13/02/21
N21/003847	24-FEB-2021	0874_QC209_210213	WATER 13/02/21

SAMPLE RECEIVED CONDITION

Date samples received: 17-FEB-2021

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487_2_1

Temperature of samples: Chilled

Comments: ALL OK

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/210217
	Quote No. : QT-02018
	Order No. : 60612487_2_1
	Date Received : 17-FEB-2021
Attention : [REDACTED]	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/003839	0874_QC201_210209	WATER 9/02/21
N21/003841	0874_QC203_210210	WATER 10/02/21
N21/003843	0874_QC205_210211	WATER 11/02/21
N21/003844	0874_QC206_210212	WATER 12/02/21

Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	0.13	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	0.080	NR70
PFHxA (307-24-4)	ug/L	<0.01	<0.01	<0.01	0.23	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	<0.01	0.016	NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01	<0.01	0.039	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDaA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	<0.01	<0.01	0.13	NR70
PFHxS (355-46-4)	ug/L	<0.01	<0.01	<0.01	0.90	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	<0.01	0.032	NR70
PFOS (1763-23-1)	ug/L	<0.02	<0.02	<0.02	1.3	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	<0.01	<0.01	<0.01	0.18	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	99	102	101	102	NR70
PFPeA (Surrogate Recovery)	%	102	92	100	95	NR70
PFHxA (Surrogate Recovery)	%	103	95	90	91	NR70
PFHpA (Surrogate Recovery)	%	111	99	99	93	NR70
PFOA (Surrogate Recovery)	%	105	99	102	96	NR70
PFNA (Surrogate Recovery)	%	91	85	82	87	NR70
PFDA (Surrogate Recovery)	%	101	85	74	84	NR70
PFUdA (Surrogate Recovery)	%	94	78	77	74	NR70
PFDoA (Surrogate Recovery)	%	75	68	64	68	NR70
PFTeDA (Surrogate Recovery)	%	76	71	68	67	NR70
PFHxDA (Surrogate Recovery)	%	84	73	78	70	NR70
FOUEA (Surrogate Recovery)	%	60	64	60	71	NR70
PFBS (Surrogate Recovery)	%	96	84	102	92	NR70
PFHxS (Surrogate Recovery)	%	99	91	103	86	NR70
PFOS (Surrogate Recovery)	%	78	106	94	82	NR70
PFOSA (Surrogate Recovery)	%	53	56	70	56	NR70
N-MeFOSA (Surrogate Recovery)	%	24	32	54	39	NR70
N-EtFOSA (Surrogate Recovery)	%	39	28	42	32	NR70
N-MeFOSAA (Surrogate Recovery)	%	51	61	69	63	NR70
N-EtFOSAA (Surrogate Recovery)	%	67	58	66	60	NR70
N-MeFOSE (Surrogate Recovery)	%	38	45	47	67	NR70
N-EtFOSE (Surrogate Recovery)	%	50	39	75	44	NR70
4:2 FTS (Surrogate Recovery)	%	92	82	74	84	NR70
6:2 FTS (Surrogate Recovery)	%	70	68	73	70	NR70
8:2 FTS (Surrogate Recovery)	%	69	68	53	63	NR70
8:2 diPAP (Surrogate Recovery)	%	96	90	107	85	NR70
Dates						
Date extracted		22-FEB-2021	22-FEB-2021	22-FEB-2021	22-FEB-2021	
Date analysed		22-FEB-2021	22-FEB-2021	22-FEB-2021	22-FEB-2021	

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Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method



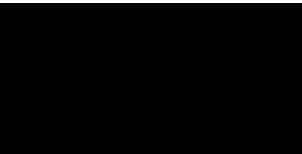
Organics - NSW
Accreditation No. 198

24-FEB-2021

Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method

Filtered Trace Elements by ICP						
Calcium Filtered	mg/L	7.6	15	15	13	NT2_47
Magnesium Filtered	mg/L	2.6	5	16	2.6	NT2_47
Potassium Filtered	mg/L	2.9	2.4	5.5	1.9	NT2_47
Sodium Filtered	mg/L	12	28	120	17	NT2_47

Dates						
Date extracted		19-FEB-2021	19-FEB-2021	19-FEB-2021	19-FEB-2021	
Date analysed		19-FEB-2021	19-FEB-2021	19-FEB-2021	19-FEB-2021	



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Accreditation No. 198

24-FEB-2021

Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method

Miscellaneous						
Chloride	mg/L	19	48	200	24	NW_D3_B14
Bicarbonate as CaCO3	mg/L	24	40	46	49	NW_B1
Carbonate as CaCO3	mg/L	< 5	< 5	< 5	< 5	NW_B1
Hydroxide as CaCO3	mg/L	< 5	< 5	< 5	< 5	NW_B1
Carbon - Dissolved Organic	mg/L	8.8	14	8.9	11	NW_S15

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Lab Reg No.		N21/003839	N21/003841	N21/003843	N21/003844	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method
Miscellaneous						
Sulphate	mg/L	4.1	12	19	5.1	NW_D10_B14
Suspended Solids - Total	mg/L	17	9	140	5	NW_S13
Dates						
Date extracted		18-FEB-2021	18-FEB-2021	18-FEB-2021	18-FEB-2021	
Date analysed		19-FEB-2021	19-FEB-2021	19-FEB-2021	19-FEB-2021	



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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210217 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 17-FEB-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/003846	0874_QC208_210213	WATER 13/02/21

Lab Reg No.	Date Sampled	Units	N21/003846	13-FEB-2021	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	<0.05			NR70
PFPeA (2706-90-3)	ug/L	0.028			NR70
PFHxA (307-24-4)	ug/L	0.11			NR70
PFHpA (375-85-9)	ug/L	0.012			NR70
PFOA (335-67-1)	ug/L	0.023			NR70
PFNA (375-95-1)	ug/L	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.050			NR70
PFHxS (355-46-4)	ug/L	0.38			NR70
PFHpS (375-92-8)	ug/L	0.011			NR70
PFOS (1763-23-1)	ug/L	0.49			NR70
PFNS (68259-12-1)	ug/L	<0.01			NR70
PFBS (375-73-5)	ug/L	0.070			NR70
PFOSA (754-91-6)	ug/L	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01			NR70
6:2 FTS (27619-97-2)	ug/L	<0.01			NR70

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Lab Reg No.		N21/003846				
Date Sampled		13-FEB-2021				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	83				NR70
PFPeA (Surrogate Recovery)	%	85				NR70
PFHxA (Surrogate Recovery)	%	83				NR70
PFHpA (Surrogate Recovery)	%	79				NR70
PFOA (Surrogate Recovery)	%	86				NR70
PFNA (Surrogate Recovery)	%	80				NR70
PFDA (Surrogate Recovery)	%	81				NR70
PFUdA (Surrogate Recovery)	%	77				NR70
PFDoA (Surrogate Recovery)	%	80				NR70
PFTeDA (Surrogate Recovery)	%	70				NR70
PFHxDA (Surrogate Recovery)	%	65				NR70
FOUEA (Surrogate Recovery)	%	64				NR70
PFBS (Surrogate Recovery)	%	78				NR70
PFHxS (Surrogate Recovery)	%	81				NR70
PFOS (Surrogate Recovery)	%	73				NR70
PFOSA (Surrogate Recovery)	%	65				NR70
N-MeFOSA (Surrogate Recovery)	%	38				NR70
N-EtFOSA (Surrogate Recovery)	%	43				NR70
N-MeFOSAA (Surrogate Recovery)	%	75				NR70
N-EtFOSAA (Surrogate Recovery)	%	75				NR70
N-MeFOSE (Surrogate Recovery)	%	44				NR70
N-EtFOSE (Surrogate Recovery)	%	57				NR70
4:2 FTS (Surrogate Recovery)	%	59				NR70
6:2 FTS (Surrogate Recovery)	%	62				NR70
8:2 FTS (Surrogate Recovery)	%	53				NR70
8:2 diPAP (Surrogate Recovery)	%	79				NR70
Dates						
Date extracted		22-FEB-2021				
Date analysed		22-FEB-2021				

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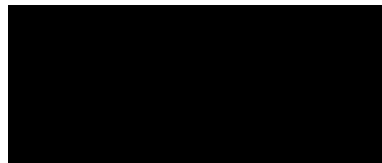
Lab Reg No.		N21/003846				
Date Sampled		13-FEB-2021				
	Units					Method
Filtered Trace Elements by ICP						
Calcium Filtered	mg/L	28				NT2_47
Magnesium Filtered	mg/L	36				NT2_47
Potassium Filtered	mg/L	11				NT2_47
Sodium Filtered	mg/L	280				NT2_47
Dates						
Date extracted		19-FEB-2021				
Date analysed		19-FEB-2021				



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Lab Reg No.		N21/003846				
Date Sampled		13-FEB-2021				
	Units					Method
Miscellaneous						
Chloride	mg/L	490				NW_D3_B14
Bicarbonate as CaCO3	mg/L	48				NW_B1
Carbonate as CaCO3	mg/L	< 5				NW_B1
Hydroxide as CaCO3	mg/L	< 5				NW_B1
Carbon - Dissolved Organic	mg/L	10				NW_S15
Sulphate	mg/L	83				NW_D10_B14
Suspended Solids - Total	mg/L	15				NW_S13
Dates						
Date extracted		18-FEB-2021				
Date analysed		19-FEB-2021				



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Total = acid extractable elements

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210217 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 17-FEB-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/003838	0874_QC200_210209	WATER 9/02/21
N21/003840	0874_QC202_210210	WATER 10/02/21
N21/003842	0874_QC204_210211	WATER 11/02/21
N21/003845	0874_QC207_210212	WATER 12/02/21

Lab Reg No.	Date Sampled	Units	N21/003838	N21/003840	N21/003842	N21/003845	Method
			09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		<0.05	<0.05	0.058	<0.05	NR70
PFPeA (2706-90-3)	ug/L		0.035	0.025	0.049	0.020	NR70
PFHxA (307-24-4)	ug/L		0.089	0.081	0.24	0.039	NR70
PFHpA (375-85-9)	ug/L		0.012	<0.01	0.027	<0.01	NR70
PFOA (335-67-1)	ug/L		0.027	0.013	0.052	0.013	NR70
PFNA (375-95-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		0.030	0.047	0.11	<0.01	NR70
PFHxS (355-46-4)	ug/L		0.22	0.38	0.86	0.10	NR70
PFHpS (375-92-8)	ug/L		<0.01	0.010	0.027	<0.01	NR70
PFOS (1763-23-1)	ug/L		0.50	0.38	1.1	0.088	NR70
PFNS (68259-12-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L		0.043	0.081	0.14	0.016	NR70
PFOSA (754-91-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.		N21/003838	N21/003840	N21/003842	N21/003845	
Date Sampled		09-FEB-2021	10-FEB-2021	11-FEB-2021	12-FEB-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	94	110	101	99	NR70
PFPeA (Surrogate Recovery)	%	100	82	98	95	NR70
PFHxA (Surrogate Recovery)	%	97	94	97	101	NR70
PFHpA (Surrogate Recovery)	%	118	88	98	96	NR70
PFOA (Surrogate Recovery)	%	104	86	96	106	NR70
PFNA (Surrogate Recovery)	%	83	90	102	79	NR70
PFDA (Surrogate Recovery)	%	95	92	96	79	NR70
PFUdA (Surrogate Recovery)	%	80	96	95	78	NR70
PFDoA (Surrogate Recovery)	%	65	79	81	67	NR70
PFTeDA (Surrogate Recovery)	%	72	90	78	68	NR70
PFHxDA (Surrogate Recovery)	%	79	71	73	80	NR70
FOUEA (Surrogate Recovery)	%	57	53	57	64	NR70
PFBS (Surrogate Recovery)	%	89	82	92	87	NR70
PFHxS (Surrogate Recovery)	%	99	79	89	92	NR70
PFOS (Surrogate Recovery)	%	92	89	101	94	NR70
PFOSA (Surrogate Recovery)	%	50	61	58	50	NR70
N-MeFOSA (Surrogate Recovery)	%	25	31	24	31	NR70
N-EtFOSA (Surrogate Recovery)	%	30	36	31	27	NR70
N-MeFOSAA (Surrogate Recovery)	%	66	74	67	56	NR70
N-EtFOSAA (Surrogate Recovery)	%	61	79	71	56	NR70
N-MeFOSE (Surrogate Recovery)	%	32	37	44	28	NR70
N-EtFOSE (Surrogate Recovery)	%	25	43	65	36	NR70
4:2 FTS (Surrogate Recovery)	%	92	76	80	74	NR70
6:2 FTS (Surrogate Recovery)	%	68	61	67	75	NR70
8:2 FTS (Surrogate Recovery)	%	48	68	72	57	NR70
8:2 diPAP (Surrogate Recovery)	%	93	75	77	102	NR70
Dates						
Date extracted		22-FEB-2021	22-FEB-2021	22-FEB-2021	22-FEB-2021	
Date analysed		22-FEB-2021	22-FEB-2021	22-FEB-2021	22-FEB-2021	

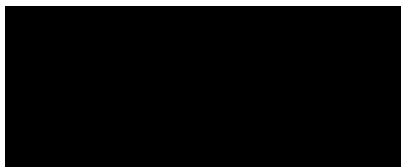
N21/003838
to
N21/003847

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



Organics - NSW
Accreditation No. 198

24-FEB-2021

REPORT OF ANALYSIS

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Report No. RN1304839

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210217 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 17-FEB-2021 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N21/003847	0874_QC209_210213	WATER 13/02/21

Lab Reg No.	Date Sampled	Units	N21/003847	13-FEB-2021	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	0.29			NR70
PFPeA (2706-90-3)	ug/L	0.34			NR70
PFHxA (307-24-4)	ug/L	1.3			NR70
PFHpA (375-85-9)	ug/L	0.14			NR70
PFOA (335-67-1)	ug/L	0.28			NR70
PFNA (375-95-1)	ug/L	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.64			NR70
PFHxS (355-46-4)	ug/L	4.3			NR70
PFHpS (375-92-8)	ug/L	0.34			NR70
PFOS (1763-23-1)	ug/L	6.3			NR70
PFNS (68259-12-1)	ug/L	<0.01			NR70
PFBS (375-73-5)	ug/L	0.74			NR70
PFOSA (754-91-6)	ug/L	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01			NR70
6:2 FTS (27619-97-2)	ug/L	<0.01			NR70

REPORT OF ANALYSIS

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Lab Reg No.			N21/003847			
Date Sampled			13-FEB-2021			
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	100				NR70
PFPeA (Surrogate Recovery)	%	110				NR70
PFHxA (Surrogate Recovery)	%	93				NR70
PFHpA (Surrogate Recovery)	%	101				NR70
PFOA (Surrogate Recovery)	%	105				NR70
PFNA (Surrogate Recovery)	%	100				NR70
PFDA (Surrogate Recovery)	%	84				NR70
PFUdA (Surrogate Recovery)	%	87				NR70
PFDoA (Surrogate Recovery)	%	75				NR70
PFTeDA (Surrogate Recovery)	%	74				NR70
PFHxDA (Surrogate Recovery)	%	76				NR70
FOUEA (Surrogate Recovery)	%	67				NR70
PFBS (Surrogate Recovery)	%	99				NR70
PFHxS (Surrogate Recovery)	%	85				NR70
PFOS (Surrogate Recovery)	%	96				NR70
PFOSA (Surrogate Recovery)	%	56				NR70
N-MeFOSA (Surrogate Recovery)	%	36				NR70
N-EtFOSA (Surrogate Recovery)	%	34				NR70
N-MeFOSAA (Surrogate Recovery)	%	60				NR70
N-EtFOSAA (Surrogate Recovery)	%	58				NR70
N-MeFOSE (Surrogate Recovery)	%	42				NR70
N-EtFOSE (Surrogate Recovery)	%	31				NR70
4:2 FTS (Surrogate Recovery)	%	91				NR70
6:2 FTS (Surrogate Recovery)	%	75				NR70
8:2 FTS (Surrogate Recovery)	%	63				NR70
8:2 diPAP (Surrogate Recovery)	%	87				NR70
Dates						
Date extracted		22-FEB-2021				
Date analysed		22-FEB-2021				

Organics - NSW
Accreditation No. 198

24-FEB-2021

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

REPORT OF ANALYSIS

Page: 14 of 14
Report No. RN1304839



ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1304737*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: **AECOM Pty Ltd**

NMI QA Report No: AECO06/210217 QA

Sample Matrix: Water

Analyte	Method	LOR	Blank	Duplicates			Recoveries	
		mg/L	mg/L	Sample mg/L	Duplicate mg/L	RPD %	Matrix spk %	LCS %
Waters Section				N20/03839			N20/03839	
Bicarbonate as CaCO ₃	NW_B1	5	<5	22	25	ND	NA	81
Carbonate as CaCO ₃	NW_B1	5	<5	<5	<5	ND	NA	NA
Hydroxide as CaCO ₃	NW_B1	5	<5	<5	<5	ND	NA	NA
Alkalinity - Total as CaCO ₃	NW_B1	5	<5	22	25	NA	NA	81
Carbon - Dissolved Organic	NW_S15	0.5	<0.5	8.6	9.0	4.5	98	109
				N20/03843				
Chloride	NW_D3_B14	0.1	<0.1	198	194	2.0	117	106
Sulphate	NW_D10_B14	0.1	<0.1	19	20	5.1	101	107

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Legend

Acceptable recovery is 80-120%.

Acceptable RPDs on duplicates is 30% at > 5 times LOR. Greater RPD may be expected at < 5 LOR.

LOR = Limit Of Reporting

ND = Not Determined

RPD = Relative Percent Difference

NA = Not Applicable

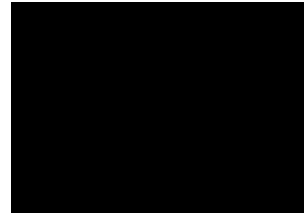
LCS = Laboratory Control Sample.

Comments

This report shall not be reproduced except in full.

Results greater than ten times LOR have been rounded to two significant figures.

Signed:



Date:

Inorganics Manager, NMI-North Ryde
24/02/2021



QUALITY ASSURANCE REPORT

Client: AECOM AUS PTY LTD

NMI QA Report No: AECO06/210217 T1

Sample Matrix: Water

Analyte	Method	LOR	Blank	Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
Inorganics Section				N21/003846			N21/003846	
Sodium Filtered	NT2.47	0.05ppm	<0.05ppm	28	28	0	99	100
Potassium Filtered	NT2.47	0.05ppm	<0.05ppm	36	36	0	99	99
Calcium Filtered	NT2.47	0.005ppm	<0.005ppm	11	11	0	98	101
Magnesium Filtered	NT2.47	0.005ppm	<0.005ppm	280	280	NA	100	99

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Legend:

Acceptable recovery is 75-120%.

Acceptable RPDs on duplicates is 44% at concentrations >5 times LOR. Greater RPD may be expected at <5 times LOR.

LOR = Limit Of Reporting

ND = Not Determined

RPD = Relative Percent Difference

NA = Not Applicable

LCS = Laboratory Control Sample.

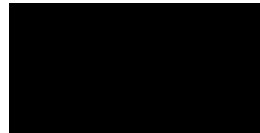
#: Spike level is less than 50% of the sample's concentration, hence the recovery data cannot be reported.

Comments:

Results greater than ten times LOR have been rounded to two significant figures.

This report shall not be reproduced except in full.

Signed:



Date:

Inorganics , NMI-North Ryde
24/02/2021



QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/210217

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample ug/L	Duplicate ug/L	RPD %	LCS %	Matrix Spike %
		ug/L	ug/L					
				N21/003838				N21/003838
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	97	110
PFPeA (2706-90-3)	NR70	0.02	<0.02	0.035	0.034	3.0	79	80
PFHxA (307-24-4)	NR70	0.01	<0.01	0.089	0.081	9.0	106	82
PFHpA (375-85-9)	NR70	0.01	<0.01	0.012	0.013	8.0	79	84
PFOA (335-67-1)	NR70	0.01	<0.01	0.027	0.024	12	81	76
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	89	83
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	83	76
PFUDA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	80	82
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	90	75
PFTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	86	66
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	86	77
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	93	96
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	93	98
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	96	88
PFBS (375-73-5)	NR70	0.01	<0.01	0.043	0.038	12	89	89
PFPeS (2706-91-4)	NR70	0.01	<0.01	0.030	0.028	7.0	97	92
PFHxS (355-46-4)	NR70	0.01	<0.01	0.22	0.20	10	78	92
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	80	81
PFOS (1763-23-1)	NR70	0.02	<0.02	0.50	0.53	6.0	90	123
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	85	77
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	88	69
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	88	72
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	90	103
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	86	98
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	84	74
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	68	76
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	102	86
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	58	56
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	95	80
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	96	104
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	88	93
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	89	68
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	76	76

Results expressed in percentage (%) or ug/L wherever appropriate.

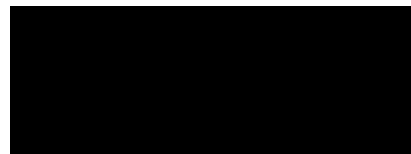
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



**Organics Manager, NMI-North Ryde
24/02/2021**

Date:

Appendix F

Calibration Certificates

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	GEORGETOWN ARASCAM	Project Number:	60612487
Project Location:	RPAE TOWNSHIP	Client:	Defence
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	PRO DSS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	9.2.21 900				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm %	ppm ORP
Calibration Standard Concentration:	4	7	2707	99.8	262
Calibration Reading:	4.25	7.16	2774	99.1	239.2
Calibration Temperature:	24.3	24.7	25.2	24.5	12.0

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm %	ppm ORP
Calibration Standard Concentration:	4.01	7.0	2865	99.3	240
Bump Test Reading:	3.92	6.91	2980	110.7	253.6
Bump Test Temperature:	26.5	26.1	25.6	25.2	19.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

10.02.2021

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP - RAAF TSN	Project Number:	60612487 - 21
Project Location:	TOWNSVILLE	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	YSI
Make and Model:	PRODS5
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	07:05 11/2/21				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	4.01	6.99	2918	237.3	607.89
Calibration Reading:	3.96	7.01	2844	233.7	7.72
Calibration Temperature:	25.2	28.1	28.1	20.1	28.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	12/2/21 0630				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	7.00	4.01	2737	248.6	9.24
Bump Test Reading:	7.00	3.95	2704	242.1	
Bump Test Temperature:	25.7	26.2	26.2	11.6	21.1

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 11/2/21
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	50 PER OMP	Project Number:	60612487
Project Location:	RAAF TONNIVILLE	Client:	DRAGON
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO PLUS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13.02.21 0635				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm %	ppm ORP
Calibration Standard Concentration:	4.01	7.00	2813	99.5	262.0
Calibration Reading:	4.07	6.98	2873	106.7	252.8
Calibration Temperature:	26.6	26.2	25.4	25.7	11.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	4.01	7.00			
Bump Test Reading:	4.07	6.98			
Bump Test Temperature:	26.6	26.2			

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument is calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature: [REDACTED] Date: 13.02.2021

Distribution: Project Central File

Sampling Event Factual Report, April 2021

PFAS OMP - RAAF Base Townsville

Sampling Event Factual Report, April 2021

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Level 8, 540 Wickham Street, PO Box 1307, Fortitude Valley QLD 4006, Australia

T +61 7 3056 4800 www.aecom.com

ABN 20 093 846 925

02-Sep-2021

Job No.: 60612487

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document Sampling Event Factual Report, April 2021

Ref 60612487_RP40_20210702_RevB

Date 02-Sep-2021

Prepared by ██████████

Reviewed by ██████████

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	14-Jun-2021	Draft Issue	██████████	
B	02-Jul-2021	Draft Issue	██████████	
0	02-Sep-2021	Final Issue	██████████	██████████

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Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure, as amended (2013)
DCMM	Defence Contamination Management Manual
DO	Dissolved oxygen
DoH	Department of Health
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
mAHD	metres Australian Height Datum
mbtoc	metres below top of casing
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPC	National Environment Protection Council
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Program
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling Analysis Quality Plan
SWL	Standing Water Level

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Program (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019) at the Royal Australian Airforce (RAAF) Base Townsville (the 'Base') located in the North Queensland Region. The location of the Base (also referred to as the 'Management Area', as defined in the PMAP [Defence, 2019]) and the Monitoring Area (comprised the Base, residential and commercial suburbs of Garbutt, Rowes Bay, West End, Belgian Gardens, Pallarenda, Mount St John, Mount Louisa, and Bohle and the Townsville Town Common wetlands) are shown in **Figure 1** in **Appendix A**. The OMP for Townsville (Defence, 2019) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of 5 days, limited to one event per calendar year.

Following each sampling event, factual reports will be prepared. Annual interpretative reports will be prepared following the completion of each 12-month sampling period. This sampling event factual report has been prepared to report the results of the post wet-season sampling event completed in April 2021, specifically highlighting first-time detections and / or first-time exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonic acid (PFHxS) and / or perfluorooctanoic acid (PFOA), where relevant.

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Department of Defence, 2021).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP; and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

The objective of this phase of works was to implement the scope of works for the April 2021 sampling event in accordance with the sampling and analysis quality plan (SAQP) (AECOM, 2021).

2.0 Scope of Work

The sampling event at RAAF Base Townsville was completed in general accordance with the SAQP (AECOM, 2021). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP) (2020);
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013);
 - Defence Routine Environment Water Quality Monitoring Manual;
 - AS/NZ 5667:1998 Water Quality – Sampling;
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality; and
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Collection of groundwater samples at 110 locations including 63 on-Base locations, and 47 off-Base locations (refer to **Table 1** below, and **Figure 2** in **Appendix A**). Standing water level (SWL) was measured in all wells immediately prior to sampling. It is noted that a groundwater sample from one monitoring well could not be collected during this sampling event (refer to **Table 8** for details).
- Collection of co-located surface water and sediment samples at 42 locations including 15 on-Base and 27 off-Base locations (refer to **Table 2** and **Table 3** below, and **Figure 3** in **Appendix A**). It is noted that three surface water samples and five sediment samples could not be collected during this sampling event (refer to **Table 13** and **Table 14** for details).
- Gauging of groundwater level in 27 selected monitoring wells (refer to **Figure 4** in **Appendix A** for specific locations). It is noted that groundwater level was not collected from two monitoring wells during the gauging round (refer to **Table 8** for details).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples, one rinsate sample per fieldwork day, and one trip blank per batch of samples.
- Analysis of all samples for the PFAS suite at the standard limit of reporting (LOR).
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Locations	Monitoring Well ID
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW116, MW118, MW126, MW129
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140, MW243, MW244
North west of Runway 07/25	MW112
East and south east of Sub-Management Area 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232

Locations	Monitoring Well ID
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229, MW228
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW235, MW234, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base – Townsville Town Common, north of the Base	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208
Off-Base – Bohle River and Bohle Industrial Estate, west of the Base	MW231, MW237, MW238, MW239, MW240, MW254, MW262
Off-Base – Suburb of Pallarenda, north east of the Base	MW233, MW252, MW253, MW301
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW471, MW467
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270

Table 2 Surface Water Sampling Locations

Locations	Location ID	
On-Base	Mundy Creek Catchment	SW001, SW010, SW106, SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207,
	Three Mile Creek Catchment	SW107, SW210

Table 3 Sediment Sampling Locations

Locations	Location ID	
On-Base	Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126, SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

3.0 Methodology

The methodology used for the April 2021 sampling event was in accordance with the SAQP (AECOM, 2021) and is summarised below. Deviations from the SAQP are discussed in **Section 3.6**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured at selected wells at the beginning of the groundwater sampling round (as detailed in Table T1, Appendix B) and immediately prior to the collection of groundwater samples from all wells (as detailed in Table T2, Appendix B) using an interface probe.
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded for using a calibrated water quality meter. Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling methodology	Groundwater samples were collected from all monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round, with the exception of wells where tree roots could prohibit the retrieval of the HydraSleeves™ in future rounds, as detailed in Table T2, Appendix B , and those locations which conflict with other monitoring programs as detailed in the SAQP and Table 8 .
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples and trip blanks. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Environmental Pty Ltd (ALS) Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of Custody Forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded for using a calibrated water quality meter. Equipment calibration certificates for the water quality meter are provided in Appendix F .

Item	Details
Sampling methodology	<p>Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full.</p> <p>Where the waterway could not be accessed from the bank, a telescopic sampler with a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into the new laboratory supplied container. A boat was used to access locations in the lower reaches of the Bohle River.</p>
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples and trip blanks. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	<p>All primary samples were submitted for PFAS suite using the standard levels of detection.</p> <p>ALS Environmental Pty Ltd (ALS) Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA).</p> <p>Chain of Custody Forms are presented in Appendix D. Laboratory certificates are presented in Appendix E.</p>

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Collection Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a piston sediment sampler or with a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), and rinsate samples. Refer to Appendix C for assessment of QA/QC sample data.
Sample analysis	<p>All primary samples were submitted for PFAS suite using the standard levels of detection.</p> <p>ALS Brisbane, Queensland was used as the primary laboratory. NMI of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the NATA.</p> <p>Chain of custody forms are presented in Appendix D, laboratory analytical certificates are presented in Appendix E.</p>

3.4 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence

PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, (HEPA 2020).
- Department of Health (DoH), 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019.
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM).

In accordance with the OMP (Defence, 2020) and SAQP (AECOM, 2021), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 7** below.

Table 7 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from NHMRC (2019). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no current HEPA (2020) endorsed human health or ecological guideline values available for PFAS in sediment.

3.5 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2021).

Data validation assessment is provided in **Appendix C**.

Data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2019) Annex L requirements (Department of Defence, 2019).

3.6 Deviations from the SAQP

Table 8 lists the deviations from the SAQP (AECOM, 2021) during this sampling round.

Table 8 Deviations from the SAQP during April 2021 Sampling Event

SAQP	Wet Season Sampling 2021
The depth to groundwater measured commencing with on-Base wells and moving to off-Base locations and finishing	The depth to groundwater was measured at both on Base and off Base wells concurrently. Off-Base tidally influenced wells along the coastline and waterways were gauged prior to other off-Base wells.

SAQP	Wet Season Sampling 2021
with tidally influenced wells along the coastline and waterways.	Tidally influenced wells were gauged within the same tide, therefore this is not considered to impact interpretation of data.
Depth to groundwater measured at 27 monitoring well locations during gauging round.	<p>Depth to groundwater was not recorded at MW237 and MW239 during the gauging round as these locations were inadvertently missed on the SAQP figure and so data from these locations were not included in inferred groundwater contours. SAQP figures will be updated prior to the next sampling round.</p> <p>Depth to groundwater recorded at the time of sampling at the Bohle industrial estate (near where MW237 and M39 are located) suggests groundwater flows towards the Townsville Town Common and Rowes Bay, which is consistent with groundwater flow direction across the Monitoring Area as determined during the gauging round, therefore this is not considered to impact interpretation of data.</p>
MW112, MW136, MW211, MW213, MW220, MW239, MW251, MW253, MW267, MW467 and MW470 were listed as non-conflicting with other sampling programs and HydraSleeves™ had been previously deployed at the end of the dry season. HydraSleeves™ were not in the well at commencement of this wet season sampling round.	HydraSleeves™ were not present upon arrival to the locations. HydraSleeves™ were deployed upon arrival and collected a minimum of 24 hours later. HydraSleeves™ were not redeployed at these locations to avoid future loss of equipment. This is not considered to impact interpretation of data. The SAQP will be updated prior to the next sampling round.
Collection of surface water at 42 co-located surface water and sediment locations.	<p>SW/SD106, SW/SD201, SW/SD209 were inaccessible during the sampling round due to flooding and unsafe access, therefore surface water and sediment samples could not be collected from these locations. Attempts were made twice to access these locations and included discussions with the contractors responsible for maintaining the area. Safe access was unable to be provided during the monitoring period.</p> <p>No sediment was present at SD119 and SD127 during the sampling round so no sediment samples could be collected from these locations.</p> <p>SW/SD106 and SW/SD209 are located on-Base and off-Base, respectively, in the Mundy Creek Catchment. Surface water flow directions, as defined in the PMAP (Defence, 2019), indicate that SW/SD209 is located downstream of SW/SD106, and SW/SD108 and SW/SD208 are located downstream of SW/SD209. Historically PFAS detections at SW106 and SW209, as presented in Table T9 in Appendix B have fluctuated between the same orders of magnitude and several orders of magnitude higher than PFAS detections at downstream SW108 and SW208. The absence of data from SW/SD106 and SW/SD209 may impact on interpretation of data and clearing access to these locations will be attempted during the next sampling round.</p> <p>SW/SD201 is the upstream sampling location of the Bohle River. Historically PFAS detections at SW/SD201 were the same order of magnitude as samples collected downstream at SW/SD129, as presented in Table T9 and Table T10 in Appendix B. The absence of data from SW/SD201 in this sampling round is unlikely to impact on interpretation of data.</p>

SAQP	Wet Season Sampling 2021
Collection of groundwater at 110 locations.	<p>MW244 was not sampled as it was unable to be located beneath pooled surface water and sediment related to construction works.</p> <p>MW002, MW122 and MW135 are located at the northern boundary of the Base, downgradient of MW244, and are sufficiently located to assess the distribution and concentration of PFAS at the Management Area boundary. The absence of data from MW244 in this sampling round is unlikely to impact on interpretation of data.</p>

4.0 Well Network Maintenance

Maintenance on wells within the RAAF Townsville PFAS OMP network was completed by AECOM between 30 October 2020 and 5 November 2020. This work involved maintenance of six existing monitoring wells and the installation of two new monitoring wells. Refer to **Appendix G** for the bore logs of MW300 and MW301, photographic log for the works completed and survey data for the wells.

Table 9 below provides a summary of the work completed.

Table 9 Summary of maintenance works completed by AECOM on the well network.

Well ID	Description of Work
MW009	New gatic collar installed.
MW112	New standpipe and monument installed, well painted yellow and two star pickets (yellow) installed.
MW118	New gatic collar installed.
MW206	New standpipe, monument and star picket (yellow) installed.
MW237	Concreted into place to prevent further damage
MW253	New standpipe installed; existing monument re-used.
MW207	New J-plug installed.
MW300	New well installed and developed to replace MW230 which has been destroyed and not found.
MW301	New well installed and developed to replace MW209 which is not serviceable.

Prior to the works listed in **Table 9**, at locations where ground disturbance was required a service locator was engaged to ensure avoidance of services for safety and property protection purposes. Following installation, the wells were developed with a steel bailer. Where new wells were installed or changes to the headworks occurred, wells were surveyed (see **Appendix G**) and the location data was updated in Defence ESdat. No ground disturbance was associated with work completed at MW207 and MW237, hence service location and survey were not required.

5.0 Field Observations and Results

The April 2021 sampling event was completed between 15 April and 28 May 2021, commencing with deployment of HydraSleeves™ and groundwater gauging as discussed in **Table 4**. The results are summarised in following sections.

Table 10 Overall Observations

Item	Observations
Weather Conditions	Weather ranged from overcast and light rain to clear, hot and humid during the sampling event. Weather conditions at the time of sampling are presented in Table T4 , Appendix B .
Estate Management Works or Training Activities	<p>PMAP remediation activities were limited to observational investigations and no active remediation was underway during the sampling program.</p> <p>During the sampling event construction works were being undertaken at Fuel Farm 2 (Sub-Management Area 2) and the health centre, located near the entry gate.</p> <p>Construction works observed during previous sampling rounds at Pad West appeared complete. A stockpile was observed adjacent to lost monitoring well MW244.</p>

5.1 Groundwater Results

5.1.1 Groundwater Observations and Field Measurements

Table 11 Groundwater Observations and Field Measurements

Item	Observations
Access	<p>All monitoring wells were accessible except for the following:</p> <ul style="list-style-type: none"> MW244 was located underneath pooled surface water and sediment related to adjacent construction works. Field staff were unable to locate the well.
Monitoring Well Network	<p>The headworks at the following monitoring wells were noted to be damaged during the April 2021 sampling event:</p> <ul style="list-style-type: none"> MW002: gatic cover was severely rusted and requires replacement. This well was able to be sampled. MW204: monument was discovered removed from standpipe and requires repairs. This well was able to be sampled. MW228: gatic bolts damaged and require replacement. This well was able to be sampled. MW240: well cap unable to seal due to build-up of hardened clay/sediment around well casing. The hardened clay/sediment should be removed to allow well cap to seal. This well was able to be sampled. MW253: well discovered with lock missing and well cap removed but present. Lock to be replaced. Well cap replaced and monitoring well was sampled but HydraSleeve™ was not redeployed due to risk of tampering. Results were consistent with historical results therefore this is unlikely to impact the interpretation of data at this location. <p>These damaged headworks are unlikely to impact the data collected or the interpretation of data during the post-wet season monitoring round, with the exception of MW253 as it is possible the HydraSleeve™ may have been tampered with.</p>

Item	Observations
Depth to Groundwater	<p>Depth to groundwater during the gauging round on 20 April 2021 was between 0.450 and 2.881 metres below top of casing. Groundwater elevations during the gauging round were between 0.731 and 4.216 metres Australian Height Datum (mAHD). Groundwater gauging data from the gauging round is presented in Table T1 in Appendix B.</p> <p>Depth to groundwater prior to sampling was between 0.052 and 7.609 metres below top of casing. Groundwater elevations prior to sampling were between 0.696 and 8.889 m AHD. Groundwater gauging data prior to sampling is presented in Table T2 in Appendix B.</p>
Groundwater Flow Direction	<p>Groundwater contours and inferred groundwater flow directions in April 2021 are shown on Figure 4 in Appendix A. In the central and western portions of the base the inferred local groundwater flow direction is to the north. In the east and northeast portion of the base, the inferred groundwater flow is towards Rowes Bay.</p> <p>It is noted that groundwater elevation data collected from the Townsville Town Common and Cape Pallarenda was likely influenced by the pooled surface waters in the Townsville Town Common at the time of gauging. For this reason, groundwater elevation data from the Townsville Town Common and Cape Pallarenda was not considered in the April 2021 inferred groundwater contours.</p>
Field Observations	<p>Groundwater from 40 monitoring well locations (MW002, MW004, MW005, MW013, MW015, MW016, MW021, MW034, MW038, MW043, MW046, MW054, MW055, MW056, MW061, MW109, MW110, MW116, MW120, MW122, MW125, MW126, MW135, MW136, MW138, MW139, MW201, MW203, MW205, MW208, MW219, MW221, MW231, MW247, MW248, MW255, MW266, MW267, MW268, MW467) had a sulfurous odour.</p> <p>Odour reported at other groundwater monitoring locations included putrefied (MW211, MW264 and MW300), and metallic (iron) (MW206). No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells.</p> <p>Field observations are presented Table T2 in Appendix B.</p>
Geophysical Parameters	<p>Groundwater geophysical parameters were measured prior to collecting groundwater samples. The readings are presented in Table T2 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • Dissolved oxygen (DO) results ranged between 0.14 mg/L (MW203) and 24.40 mg/L (MW268). • Electrical conductivity (EC) ranged from 221.2 µS/cm (MW269) to 84,984 µS/cm (MW256) fresh to saline conditions. • pH ranged from 3.39 (MW206) to 8.19 (MW258). pH results generally indicated acidic to neutral conditions. • Oxidation-reduction potential (ORP) ranged from -192.5 mV (MW139) to 373.1 mV (MW206) indicating mildly to strongly reducing conditions. • Temperature ranged from 17.6°C (MW300) to 31.6°C (MW301).

5.1.2 Groundwater Analytical Results

Of the 109 groundwater wells sampled during this event, 99 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3** in **Appendix B**. A total of 55 samples exceeded the adopted ecological guidelines for groundwater (**Table T3, Appendix B**).

Historical groundwater results are presented in **Table T8, Appendix B**. First time detections of PFAS or exceedances of guideline values from this sampling round are presented in **Table 12** below and shown in **Figure 5, Appendix A**.

Table 12 First Time Detections of PFAS or New Exceedances of Guidelines in Groundwater

Deviation Type	Monitoring wells/bores	PFOS concentration (µg/L)		PFOA concentration (µg/L)		PFOS + PFHxS concentration (µg/L)	
		April 2021	Historical maximum	April 2021	Historical maximum	April 2021	Historical maximum
First-time detections of PFOS+PFHxS or PFOA in groundwater	MW300 ¹	NA ²		0.02	- ³	0.31	- ³
	MW301 ¹	NA ²		0.01	- ³	0.17	- ³
First time exceedance of the NEMP (HEPA, 2020) ecological guidelines ⁴ .	There were no first-time exceedances of the NEMP (HEPA, 2020) ecological guidelines.					NA ⁵	

Note: Blue shading indicates a sample with a first-time detection of PFOS+PFHxS or PFOA

¹ Locations were sampled for the first time during this sampling event. This first-time detection is the only data available for this location.

² First time detections of PFOS have not been included as per *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Department of Defence, 2021).

³ No historical data exists for the monitoring location.

⁴ Guideline values are listed detailed in Table 7.

⁵ There are no relevant ecological guideline values for PFOS+PFHxS.

Monitoring wells MW300 and MW301 were installed in October 2020 and no historical data exists at these locations, therefore the detections of PFOS+PFHxS and PFOA in April 2021 are recorded as first-time detections. MW300 and MW301 were installed to replace the damaged or destroyed monitoring wells MW230 and MW209 respectively, where detections of PFOS+PFHxS and PFOA were historically recorded as presented in **Table T8, Appendix B**. Groundwater sampling results were within the same order of magnitude as historically reported concentrations and were generally within the historical range of concentrations with the exception of MW005, MW009, MW021, MW081, MW112, MW121, MW125, MW209, MW213, MW214, MW218, MW230, MW235, MW241, MW247, MW253, MW256, MW261 and MW262.

5.2 Surface Water Results

5.2.1 Surface Water Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations
Access	<p>Three surface water sampling locations SW106, SW201 and SW209 were inaccessible and unable to be sampled.</p> <ul style="list-style-type: none"> SW106 and SW209, located on-Base and off-Base respectively along an unnamed non-perennial watercourse within the Munday Creek Catchment, were unable to be accessed due to long grass blocking the access track to both locations. No other access tracks to these locations exist and AECOM were advised that Defence do not maintain this area and could not create an access track. The locations were not sampled. SW201, located off-Base along the Bohle River, was unable to be accessed due to a stockpile associated with a housing development blocking the track leading to the sampling location. Alternative access to Bohle River was considered but unable to be safely established. The location was not sampled.
Field Observations	<p>A biosheen was noted at SW014, SW016, SW102, SW107, SW110, SW111, and SW113. No other visual or olfactory indications of contamination were observed during the sampling of the other surface water sampling locations.</p> <p>Surface water from three locations had an organic odour and six locations had a sulfurous, putrefied, or brackish odour.</p> <p>Field observations are presented in Table T4 in Appendix B.</p>

Item	Observations
Geophysical Parameters	<p>Surface water geophysical parameters were measured prior to collecting surface water samples. The readings are presented in Table T4 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • DO ranged from 0.57 mg/L (SW131) to 12.04 mg/L (SW016) indicating moderately and well oxygenated conditions. • EC ranged from 117.5 µS/cm (SW121) to 41,333 µS/cm (SW204) indicating fresh to saline conditions. • pH ranged from 6.47 (SW131) to 9.27 (SW016). pH results generally indicated neutral to alkaline conditions. • ORP ranged from -69.6 mV (SW021) to 189 mV (SW126) indicating moderately to strongly reducing conditions. • Temperature ranged from 24.0°C (SW127) and 31.8°C (SW120).

5.2.2 Surface Water Analytical Results

Of the 39 surface water samples, 37 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. A total of 28 surface water samples exceeded the adopted ecological guidelines and 13 surface water samples exceeded the recreational use guidelines (**Table T5**, **Appendix B**).

Historical surface water results are presented in **Table T9**, **Appendix B**. There were no first-time detections of PFOS+PFHxS or PFOA, or first-time exceedances of guideline values in surface water samples from this sampling round. Surface water sampling results were within the same order of magnitude as historically reported concentrations and were generally within the historical range of concentrations with the exception of SW021, SW107, SW108, SW109, SW118, SW203, SW204, SW205, SW206, SW210.

5.3 Sediment Results

5.3.1 Sediment Observations and Field Measurements

Table 14 Sediment Observations and Field Measurements

Compound	Criteria
Access	<p>Five sediment sampling locations were inaccessible or had no sediment present and were unable to be sampled.</p> <ul style="list-style-type: none"> • SD106 and SD209, located on-Base and off-Base respectively along an unnamed non-perennial watercourse within the Munday Creek Catchment, were unable to be accessed as noted for SW106 and SW208 above. The locations were not sampled. • SD201, located off-Base along the Bohle River, was unable to be accessed as noted for SW201 above. • SD119 and SD127, located at off-Base drains in the Mundy Creek Catchment and Bohle River/Louisa Creek/Town Common Catchment respectively, did not have any sediment present to collect at the time of sampling. The locations were sampled for surface water only.
Field Observations	<p>No visible or olfactory indications of contamination were observed during the sampling of the sediment locations.</p> <p>Sediment logging data is presented in Table T6 in Appendix B.</p>

5.3.2 Sediment Analytical Results

Of the 37 sediment samples, 34 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7** in **Appendix B**.

Historical sediment results are presented in **Table T10**, **Appendix B**. There were no first-time detections of PFOS+PFHxS or PFOA during this sampling event. There are no human health or ecological guideline values available for sediment. Sediment sampling results were within the same order of magnitude as historically reported concentrations and were generally within the historical range of concentrations with the exception of SD016, SD109, SD126, SD111, SD203 and SD206.

6.0 Summary and Next Sampling Event

6.1 Summary of Monitoring Event

A groundwater, surface water and sediment monitoring event were completed both within and outside of the RAAF Base Townsville between 15 April and 28 May 2021. The program included sampling of groundwater from 62 on-Base monitoring wells, 47 off-Base monitoring wells, 37 co-located surface water and sediment locations, and a further two surface water locations where sediment was not present. **Table 15** summarises the findings of the April 2021 sampling event and the recommended actions.

Table 15 Summary of Sampling Event

Item	Comment	Recommended Actions
Groundwater: Access to sampling locations and monitoring well network condition	A total of 109 out of the 110 monitoring well locations were accessible and able to be sampled. Monitoring well maintenance was required as detailed in the following rows.	No recommended actions
	MW244: located underneath pooled surface water and sediment as a result of changed topography from adjacent stockpile construction and was unable to be found. Based on groundwater contours from the April 2021 event this well is located downgradient of Sub-Management Areas 1 and 2 with boundary wells MW002, MW056 and MW135 located further downgradient. MW244 historically exceeded the ecological guideline for PFOS. This well was previously sampled in September 2020 and was reported to be filled with saturated silt.	Locate well using GPS coordinates or a ground penetrating radar (GPR). Extend well standpipe and replace gatic with a stick-up monument. Survey new TOC and update ESdat database. Develop well to remove silt prior to the next sampling event.
	MW002: gatic cover was severely rusted and unable to be closed flush to the ground. This well was sampled. This well is located in a topographical low point and would regularly be inundated by surface water in the wet season.	Replace metal gatic headworks with a plastic gatic cover to minimise rusting from inundation, maintaining the seal and preventing possible surface water infiltration.
	MW204: monument was discovered removed from standpipe. This well was sampled.	Replace monument over standpipe and re-concrete plinth into ground.
	MW228: gatic bolts damaged and require replacement. This well was able to be sampled.	Replace gatic bolts during next sampling round.
	MW240: well cap unable to seal due to build-up of hardened clay/sediment around well casing. This well was sampled.	Remove hardened clay/sediment from gatic to allow well cap to seal, preventing possible surface water infiltration.
	MW253: well discovered with lock missing and well cap removed but present. This well was able to be sampled.	Replace well cap and monument padlock during next sampling round. HydraSleeve™ to be deployed at the beginning of the next sampling round and not redeployed following sampling due risk of tampering.

Item	Comment	Recommended Actions
<u>Sediment/ Surface Water:</u> Access to sampling locations	A total of 39 of the 42 proposed sediment and surface water locations were able to be accessed. No sediment was available to be collected at SD119 and SD127.	Ongoing monitoring in accordance with the OMP.
	SW/SD106 and SW/SD209 were unable to be accessed as noted above. It is expected that the track will become accessible during the dry season.	Assess access to SW/SD106 and SW/SD209 during next sampling event. Request access track maintenance prior to next season sampling event.
	SW201 was unable to be accessed as noted above.	Assess the viability of this sampling location and consider allocating an alternative sampling location.
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 99 groundwater samples. PFAS compounds were detected above laboratory LOR in 37 surface water samples. PFAS compounds were detected above laboratory LOR in 34 sediment samples.	Ongoing monitoring in accordance with the OMP.
First-time detections of PFOS+PFHxS or PFOA	Two groundwater samples reported a first-time detection (MW300 and MW301) of PFOS+PFHxS and PFOA above the laboratory LOR. MW300 and MW301 were sampled for the first time during the April 2021 sampling event.	Ongoing monitoring in accordance with the OMP.
First time exceedance of adopted screening criteria for PFOS+PFHxS, PFOS or PFOA	There were no first-time exceedances of the NEMP (HEPA, 2020) ecological 95% Species Protection for groundwater or surface water samples. There were no first-time exceedances of the NHMRC (2019) recreational use guidelines for surface water samples.	Ongoing monitoring in accordance with the OMP.

6.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for October 2021.

6.3 Upcoming Annual Interpretive Report

The next annual interpretative report is scheduled for November 2021.

7.0 References

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Appendix A

Figures

Appendix A Figures

- Figure 1 RAAF Base Townsville Location Plan**
- Figure 2 Groundwater Monitoring Locations**
- Figure 3 Surface Water and Sediment Monitoring Locations**
- Figure 4 Inferred Groundwater Contours**
- Figure 5 Groundwater, Surface Water and Sediment - Deviations from Historical Data**

Legend

- Management Area
- Sub-Management Area
- Monitoring Area

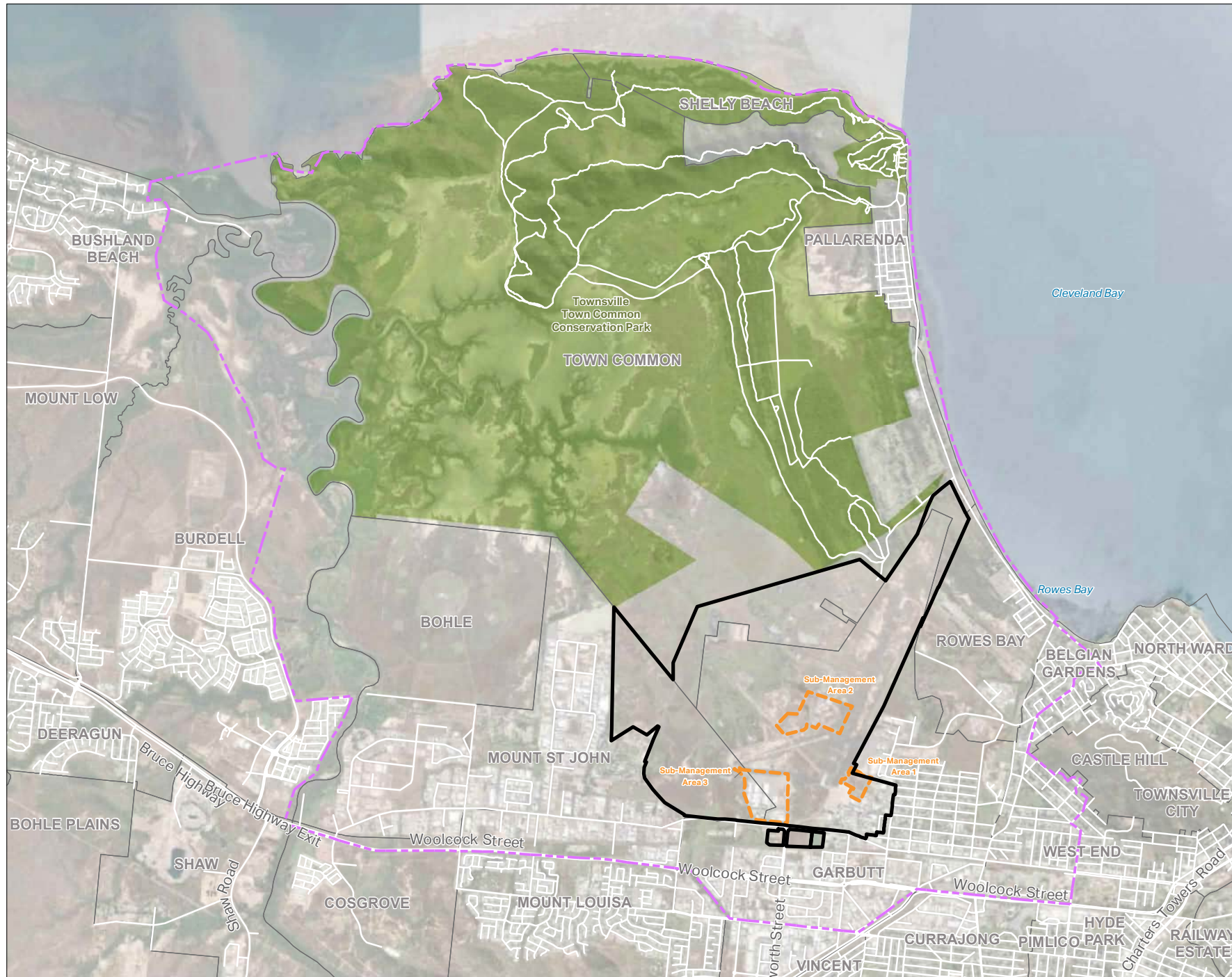


FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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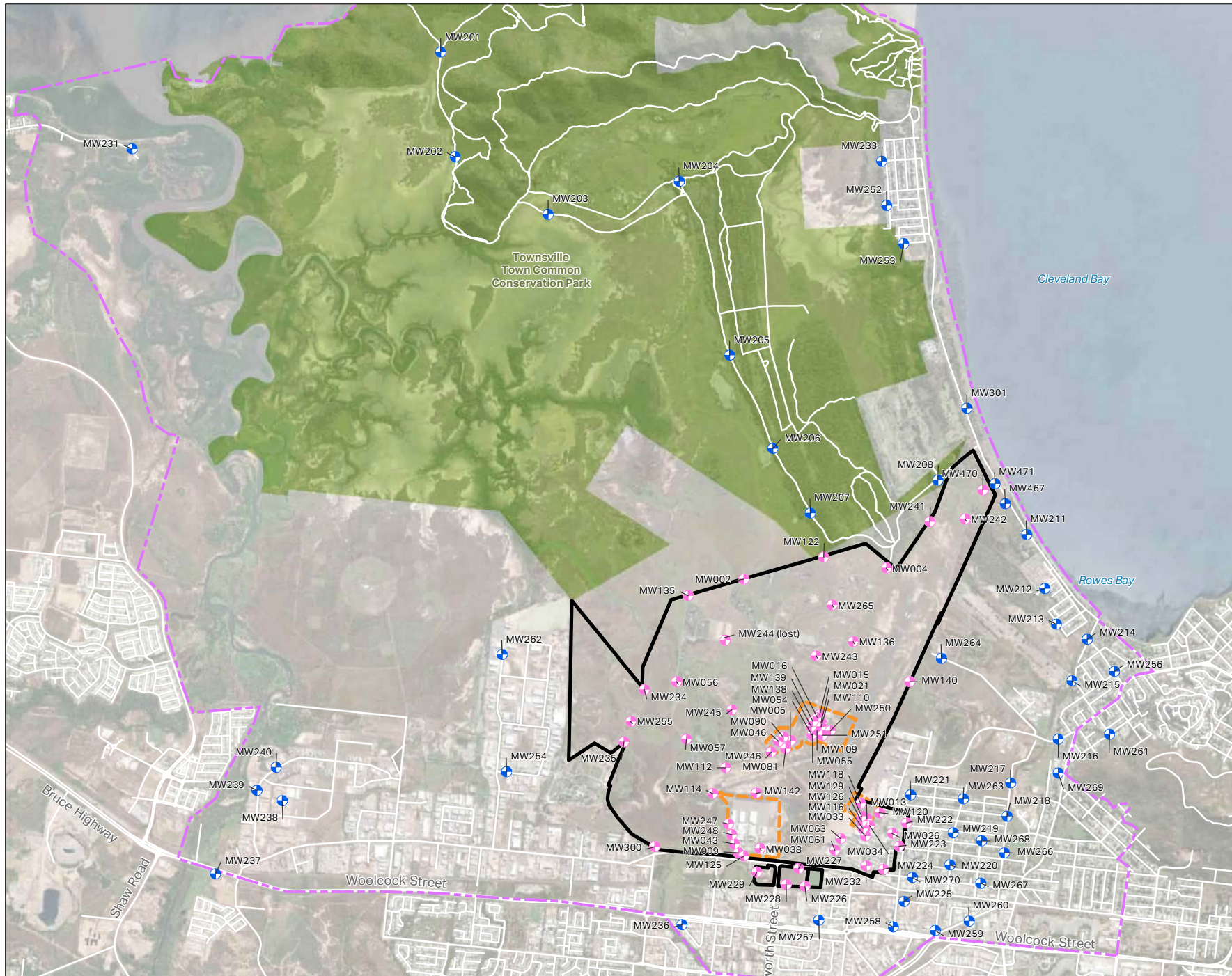
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USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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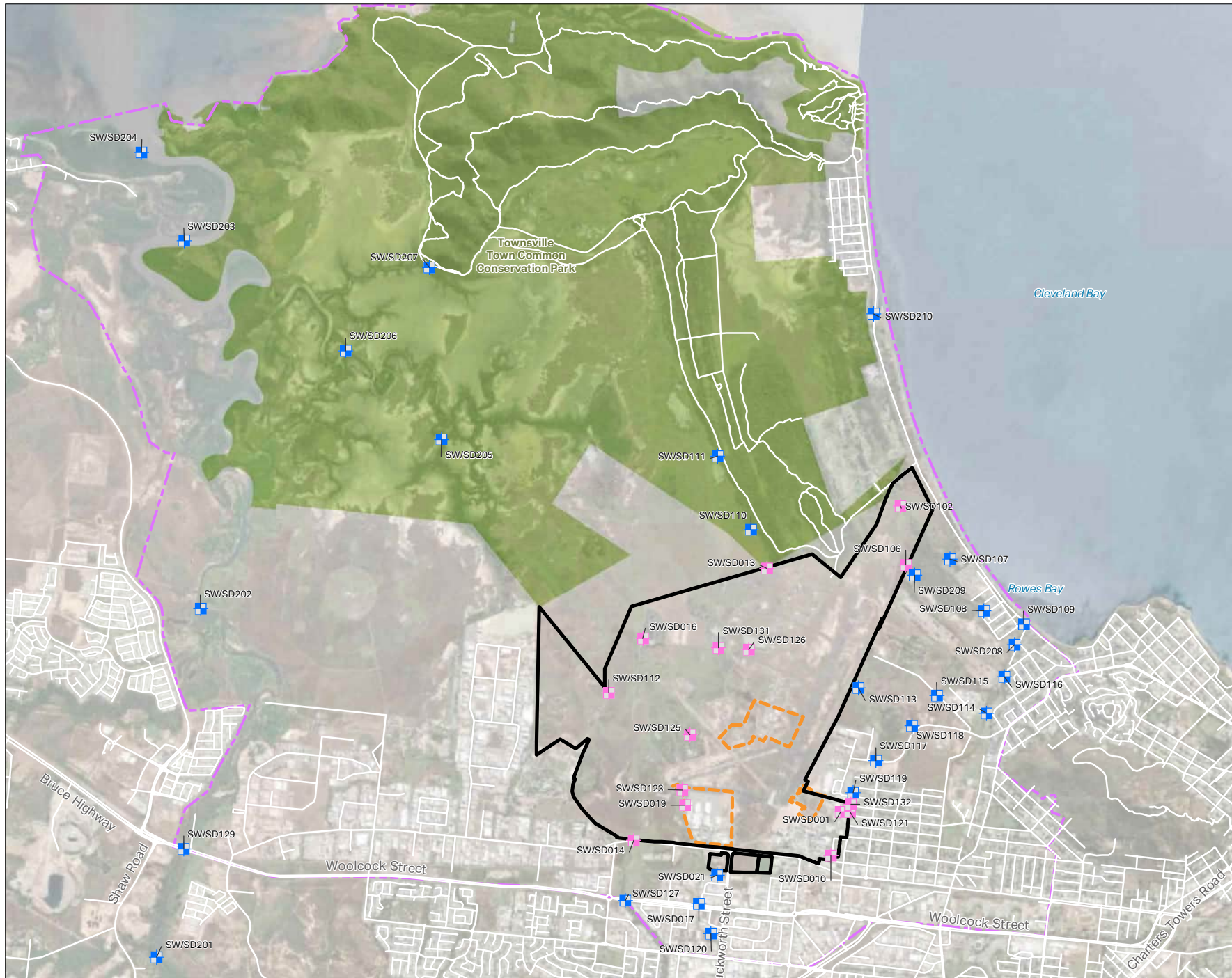
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-Base Surface Water/Sediment Locations
- Off-Base Surface Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour
- Inferred groundwater flow direction
- On-base Monitoring Well
- Off-base Monitoring Well

Note: Groundwater gauging data collected on 20 April 2021

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS**

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PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
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- Legend
- Management Area
 - Monitoring Area
 - Sub-Management Area
 - First time detect of PFOS+PFHxS or PFOA

FIGURE 5:
GROUNDWATER,
SURFACE WATER AND
SEDIMENT -DEVIATIONS
FROM HISTORICAL DATA

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April 2021
CLIENT NAME:
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PROJECT NUMBER:
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Appendix B

Tables

Appendix B Tables

Table T1	Groundwater Gauging
Table T2	Groundwater Field Parameters
Table T3	Groundwater PFAS Analytical Results
Table T4	Surface Water Field Parameters
Table T5	Surface Water PFAS Analytical Results
Table T6	Sediment Observations
Table T7	Sediment PFAS Analytical Results
Table T8	Historical Groundwater PFAS Analytical Results
Table T9	Historical Surface Water PFAS Analytical Results
Table T10	Historical Sediment PFAS Analytical Results

Table T1: Groundwater Gauging

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)
0874	MW002	20/04/2021	09:46:18	4.67	0.450	1.866	1.416
0874	MW004	20/04/2021	09:17:18	5.24	1.153	3.181	2.028
0874	MW046	20/04/2021	08:11:16	4.42	0.677	2.844	2.167
0874	MW114	20/04/2021	08:03:55	5.20	1.213	3.325	2.112
0874	MW116	20/04/2021	07:43:16	4.27	1.646	5.254	3.608
0874	MW122	20/04/2021	09:23:52	6.43	0.921	2.451	1.530
0874	MW125	20/04/2021	07:57:18	9.92	1.699	4.617	2.918
0874	MW135	20/04/2021	09:55:23	5.89	0.820	2.275	1.455
0874	MW136	20/04/2021	08:53:46	5.85	0.554	2.823	2.269
0874	MW138	20/04/2021	08:21:20	5.99	0.681	2.903	2.222
0874	MW205	20/04/2021	07:15:05	4.99	1.177	3.239	2.062
0874	MW206	20/04/2021	07:29:03	4.40	1.404	3.211	1.807
0874	MW207	20/04/2021	07:40:45	6.27	1.865	3.825	1.960
0874	MW214	20/04/2021	08:28:44	4.90	2.544	3.663	1.119
0874	MW215	20/04/2021	08:41:10	6.55	2.538	3.269	0.731
0874	MW217	20/04/2021	09:14:52	5.78	1.484	3.271	1.787
0874	MW218	20/04/2021	08:57:29	5.23	1.099	2.908	1.809
0874	MW223	20/04/2021	07:27:25	4.74	1.121	5.337	4.216
0874	MW234	20/04/2021	11:07:01	7.96	1.571	3.216	1.645
0874	MW242	20/04/2021	09:07:54	4.82	1.379	3.081	1.702
0874	MW253	20/04/2021	07:55:59	4.42	2.881	4.095	1.214
0874	MW255	20/04/2021	11:26:07	7.47	1.308	3.121	1.813
0874	MW267	20/04/2021	09:27:55	4.77	2.115	4.134	2.019
0874	MW300	20/04/2021	10:26:56	6.46	1.732	5.072	3.340
0874	MW301	20/04/2021	08:13:11	4.92	2.209	3.940	1.731

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

Table T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Sub-Management Area One																				
0874	MW013	29/04/2021	NA	3.56	06/05/2021	4.86	1.140	4.708	3.568	Good	2.18	10369	6.36	-110.9	26.6	Low	Grey	Weak sulfurous odour	No sheen	Data logger in well
0874	MW116	19/04/2021	1.5 - 4.5	2.97	29/04/2021	4.27	1.625	5.254	3.629	Good	2.05	11698	6.43	-18.9	29.0	Medium	Yellow	Weak sulfurous odour	No sheen	Gatic flooded below TOC, sediment on IP and in HydraSleeve
0874	MW118	19/04/2021	NA	3.30	21/04/2021	4.6	0.773	4.381	3.608	Good	2.92	4059	7.10	-81.2	29.7	Low	Light brown	No odour	No sheen	
0874	MW126	19/04/2021	3 - 6	4.63	29/04/2021	5.93	1.093	4.869	3.776	Good	2.11	666	7.44	-124.2	29.0	Turbid	Yellow	Distinct sulfurous odour	No sheen	Gatic flooded above TOC, removed before opening well
0874	MW129	19/04/2021	3 - 6	4.63	21/04/2021	5.93	0.738	4.648	3.910	Good	3.69	425.4	7.11	3.4	29.5	Low	Light yellow	No odour	No sheen	Sediment at bottom of HydraSleeve
Sub-Management Area Two																				
0874	MW005	15/04/2021	NA	6.16	29/04/2021	7.46	1.610	3.922	2.312	Good	2.46	39773	6.72	-62.9	28.0	Medium	Clear	Weak sulfurous odour	No sheen	Sediment in HydraSleeve. Well in St Hillier Construction area
0874	MW015	15/04/2021	NA	2.10	29/04/2021	3.40	1.191	3.343	2.152	Good	2.81	28726	6.05	-53.4	29.2	Medium	Clear	Distinct sulfurous odour	No sheen	
0874	MW016	15/04/2021	NA	2.25	29/04/2021	3.55	1.176	3.450	2.274	Good	2.69	13596	6.37	-110.0	31.6	Medium	Grey	Weak sulfurous odour	No sheen	Gatic flooded below TOC
0874	MW021	15/04/2021	NA	1.95	29/04/2021	3.25	0.995	3.301	2.306	Good	1.72	12265	6.78	-151.1	30.8	Low	Grey	Distinct sulfurous odour	No sheen	
0874	MW046	15/04/2021	NA	3.12	28/04/2021	4.42	0.301	2.844	2.543	Good	1.40	11726	7.45	-104.1	28.1	Clear	Clear	Distinct sulfurous odour	No sheen	
0874	MW054	15/04/2021	NA	4.32	28/04/2021	5.62	1.094	3.669	2.575	Good	3.51	7561	7.83	-105.1	29.8	Clear	Clear	Strong sulfurous odour	No sheen	
0874	MW055	15/04/2021	NA	3.61	28/04/2021	4.91	1.113	3.563	2.450	Good	2.50	3313	7.68	-133.2	30.9	Clear	Clear	Distinct sulfurous odour	No sheen	
0874	MW081	15/04/2021	NA	3.77	28/04/2021	5.07	0.622	3.408	2.786	Good	3.08	5858	7.23	6.4	27.7	Medium	Light brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW090	15/04/2021	NA	1.65	28/04/2021	2.95	0.565	3.303	2.738	Good	2.48	538	8.01	-34.6	28.7	Turbid	Yellow to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW109	15/04/2021	NA	4.53	29/04/2021	5.83	1.032	3.255	2.223	Good	1.76	36471	6.80	-106.5	28.5	Clear	Clear	Weak sulfurous odour	No sheen	
0874	MW110	15/04/2021	NA	3.59	29/04/2021	4.89	0.576	2.853	2.277	Good	3.22	3082	7.65	-63.8	28.7	Medium	Yellow to brown	Weak sulfurous odour	No sheen	Sediment at bottom of HydraSleeve, bubbles present
0874	MW138	15/04/2021	3 - 6	4.69	29/04/2021	5.99	0.549	2.903	2.354	Good	3.04	2027	7.33	-125.0	28.4	Medium	Black to grey	Distinct sulfurous odour	No sheen	Gatic flooded below TOC, sediment in HydraSleeve, bubbles in sample
0874	MW139	15/04/2021	3 - 6	4.72	29/04/2021	6.02	1.072	3.443	2.371	Good	1.26	44070	6.96	-192.5	29.7	Low	Clear	Weak sulfurous odour	No sheen	Gatic flooded below TOC
0874	MW246	28/04/2021	1 - 7	6.07	30/04/2021	7.37	1.149	3.901	2.752	Good	1.71	46791	6.26	81.1	29.1	Turbid	Light brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW250	19/04/2021	1 - 6	3.90	21/04/2021	5.20	1.691	3.916	2.225	Good	2.10	3578	6.81	185.4	27.1	Medium	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW251	21/04/2021	0.7 - 6.7	5.82	29/04/2021	7.12	0.953	3.440	2.487	Good	2.08	40400	6.18	60.4	28.8	Medium	Yellow	No odour	No sheen	Sediment at bottom of HydraSleeve
Sub-Management Area Three																				
0874	MW009	19/04/2021	NA	3.38	29/04/2021	4.68	0.821	3.634	2.813	Good	1.92	27666	6.45	24.6	29.1	Medium	Yellow to brown	No odour	No sheen	Sediment on IP and in HydraSleeve, bubbles also present.
0874	MW038	19/04/2021	NA	3.33	29/04/2021	4.63	0.526	4.734	4.208	Good	2.15	2288	8.08	-102.0	28.9	Medium	Grey	Distinct sulfurous odour	No sheen	
0874	MW043	19/04/2021	NA	4.48	29/04/2021	5.78	0.800	3.613	2.813	Good	1.02	18852	-	-189.1	28.2	Turbid	Yellow to brown	Strong sulfurous odour	No sheen	Gatic flooded below TOC, sediment on IP, weight and in HydraSleeve
0874	MW114	19/04/2021	NA	3.90	28/04/2021	5.20	1.006	3.325	2.319	Good	3.80	2624	6.87	-13.5	25.5	Low	Yellow to brown	No odour	No sheen	Ants in monument, sediment at bottom of HydraSleeve
0874	MW125	19/04/2021	5 - 11	8.62	29/04/2021	9.92	1.566	4.617	3.031	Good	1.60	20999	6.28	-127.4	28.2	Medium	Yellow	Distinct sulfurous odour	No sheen	Sediment on IP, weight and at bottom of HydraSleeve
0874	MW142	19/04/2021	3 - 6	4.80	21/04/2021	6.10	0.815	3.169	2.354	Good	1.92	53953	6.17	169.9	28.1	Clear	Clear	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW247	19/04/2021	0.8 - 3.5	2.84	29/04/2021	4.14	0.951	4.399	3.448	Good	3.04	1388	6.68	25.8	27.5	Medium	Yellow to brown	Weak sulfurous odour	No sheen	Sediment on IP and weight. Sediment ants and bubbles in HydraSleeve
0874	MW248	29/04/2021	1 - 4	2.51	06/05/2021	3.81	1.192	3.943	2.751	Good	2.12	13463	7.57	209.1	27.3	Turbid	Yellow to brown	Distinct sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
On-Base																				
0874	MW002	09/09/2020	NA	3.37	28/04/2021	4.67	0.052	1.866	1.814	Damaged	2.83	26039	6.34	-45.5	27.4	Medium	Black	Distinct sulfurous odour	Slight sheen	Sediment in HydraSleeve, tubing at well, gatic lid rusted (does not seal)
0874	MW004	19/04/2021	NA	3.94	28/04/2021	5.24	0.907	3.181	2.274	Good	3.76	7174	6.50	-20.3	27.1	Low	Light brown	Distinct sulfurous odour	No sheen	Small amount of sediment at bottom of HydraSleeve
0874	MW026	19/04/2021	NA	3.56	30/04/2021	4.86	1.465	5.164	3.699	Good	2.42	793	7.89	-106.5	30.2	Medium	Yellow to brown	No odour	No sheen	Gatic flooded above TOC, removed before opening well.
0874	MW033	19/04/2021	NA	2.65	30/04/2021	3.95	1.725	5.860	4.135	Good	7.10	599	8.06	-14.3	29.9	Clear	Clear	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW034	19/04/2021	NA	2.55	30/04/2021	3.85	1.556	5.434	3.878	Good	2.16	10256	6.73	-110.2	29.7	Turbid	Light brown	Distinct sulfurous odour	No sheen	
0874	MW056	16/04/2021	NA	4.16	06/05/2021	5.46	1.013	2.955	1.942	Good	1.53	44713	6.27	-28.9	27.7	Low	Grey	Distinct sulfurous odour	No sheen	
0874	MW057	19/04/2021	NA	4.98	28/04/2021	6.28	0.830	3.114	2.284	Good	3.74	58281	6.63	54.7	28.5	Low	Light brown	No odour	No sheen	
0874	MW061	19/04/2021	NA	4.18	30/04/2021	5.48	0.816	4.668	3.852	Good	2.16	3587	7.32	-138.8	29.9	Clear	Clear	Strong sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW063	19/04/2021	NA	4.01	30/04/2021	5.31	0.819	4.852	4.033	Good	1.85	9471	6.87	38.1	28.4	Clear	Clear	No odour	No sheen	Sediment at bottom of HydraSleeve, tubing in well
0874	MW112	28/04/2021	NA	4.10	30/04/2021	5.40	1.153	3.300	2.147	Good	1.85	9495	5.80	13.6	28.7	Medium	Yellow to brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW120	19/04/2021	NA	4.54	30/04/2021	5.84	0.778	4.549	3.771	Good	2.11	7774	6.95	-153.3	30.3	Clear	Clear	Distinct sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW122	16/04/2021	1.5 - 4.5	5.13	28/04/2021	6.43	0.502	2.451	1.949	Good	2.67	18493	5.79	11.0	28.0	Low	Black	Distinct sulfurous odour	No sheen	Ants in monument, sediment at bottom of HydraSleeve
0874	MW135	16/04/2021	1.5 - 4.5	4.59	28/04/2021	5.89	0.552	2.275	1.723	Good	2.42	53898	6.54	-83.4	28.6	Medium	Black to grey	Distinct sulfurous odour	No sheen	Gatic flooded above TOC, removed before opening well. Sediment on IP and at bottom of HydraSleeve
0874	MW136	16/04/2021	NA	4.55	28/04/2021	5.85	0.482	2.823	2.341	Good	1.76	1041	7.49	-112.4	27.2	Medium	Light brown	Weak sulfurous odour	No sheen	Gatic flooded below TOC, sediment in bottom of HydraSleeve
0874	MW140	19/04/2021	NA	9.88	21/04/2021	11.18	0.789	2.728	1.939	Good	2.07	58358	6.10	74.0	27.0	Turbid	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW222	23/09/2020	1.2 - 8	6.55	30/04/2021	7.85	0.334	4.568	4.234	Good	5.88	7550	6.01	57.3	22.8	Turbid	Grey to brown	No odour	No sheen	
0874	MW223	23/09/2020	1.5 - 4.5	3.44	30/04/2021	4.74	0.978	5.337	4.359	Good	2.29	1804	7.08	-4.7	27.8	Low	Yellow to brown	No odour	No sheen	Sediment on IP, weight and at bottom of HydraSleeve
0874	MW224	23/09/2020	2.2 - 8.2	6.66	30/04/2021	7.96	1.021	5.001	3.980	Good	1.98	19125	6.53	49.3	27.3	Turbid	Yellow to brown	No odour	No sheen	Gatic flooded below TOC. Sediment on IP, weight and in HydraSleeve
0874	MW226	23/09/2020	1.5 - 6.5	5.42	30/04/2021	6.72	0.329	5.172	4.843	Good	1.37	6919	6.56	-101.1	27.8	Turbid	Light brown	No odour	No sheen	Sediment on weight and at bottom of HydraSleeve
0874	MW227	23/09/2020	1 - 8	6.60	30/04/2021	7.90	0.585	4.693	4.108	Good	1.50	19279	6.44	-24.9	28.8	Turbid	Black to grey	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW228	25/04/2020	1.5 - 8	6.74	30/04/2021	8.04	0.770	4.944	4.174	Good	1.69	24902	6.49	11.8	27.8	Turbid	Grey to brown	No odour	No sheen	Ant nest in gatic, bolts damaged, sediment on IP and in HydraSleeve
0874	MW229	23/09/2020	1 - 9.7	8.63	30/04/2021	9.93	1.421	5.387	3.966	Good	2.26	34698	5.96	105.6	27.7	Turbid	Light brown	No odour	No sheen	
0874	MW232	11/09/2020	1 - 5	3.64	30/04/2021	4.94	1.193	5.767	4.574	Good	2.57	2696	7.64	-40.2	29.6	Medium	Yellow to brown	No odour	No sheen	Sediment on IP, weight and at bottom of HydraSleeve
0874	MW234	09/09/2020	1 - 6	6.42	20/04/2021	7.72														

Table T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Off-Base																				
0874	MW201	17/04/2020	2 - 5.2	4.38	06/05/2021	5.68	0.721	3.132	2.411	Good	2.01	47679	6.84	108.0	30.0	Medium	Light yellow	Distinct sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW202	17/04/2020	2 - 5	4.47	06/05/2021	5.77	0.721	2.904	2.183	Good	1.06	26356	6.60	110.6	28.7	Medium	Grey to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve, floating particles in HydraSleeve
0874	MW203	17/04/2020	1 - 4	3.39	06/05/2021	4.69	1.236	2.785	1.549	Good	0.14	54505	6.39	-178.3	29.0	Medium	Clear	Strong sulfurous odour	No sheen	
0874	MW204	17/04/2020	1.2 - 4.2	3.62	27/04/2021	4.92	2.595	4.759	2.164	Damaged	4.91	7955	6.26	44.5	27.8	Medium	Yellow to brown	No odour	No sheen	Monument removed from standpipe. Sediment on weight and in HydraSleeve
0874	MW205	17/04/2020	1.2 - 4.2	3.69	27/04/2021	4.99	1.168	3.239	2.071	Good	2.51	16681	5.02	50.4	26.7	Medium	Yellow	Distinct sulfurous odour	No sheen	Roots at HydraSleeve collar, sediment on weight and in HydraSleeve
0874	MW206	17/04/2020	1 - 4	3.10	27/04/2021	4.40	1.329	3.211	1.882	Good	2.95	2200	3.39	373.1	27.4	Medium	Yellow to brown	Distinct metallic (iron) odour	No sheen	Sediment on IP, weight and at bottom of HydraSleeve
0874	MW207	17/04/2020	2 - 6	4.97	27/04/2021	6.27	1.641	3.825	2.184	Good	3.43	27776	3.86	226.1	26.5	Medium	Light yellow	No odour	No sheen	Sediment on IP, weight and at bottom of HydraSleeve
0874	MW208	14/09/2020	1 - 4	3.46	27/04/2021	4.76	2.232	4.060	1.828	Good	4.06	2215	7.18	-77.6	28.5	Clear	Black	Weak sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW211	16/04/2021	2 - 6	3.94	27/04/2021	5.24	3.344	4.990	1.646	Good	2.27	1123	6.69	-120.4	26.0	Turbid	Black	Distinct putrefied odour	No sheen	Gatic flooded below TOC. Sediment at bottom of HydraSleeve
0874	MW212	16/09/2020	1 - 4	2.80	21/04/2021	4.10	0.897	2.835	1.938	Good	3.14	657	6.71	-68.5	27.8	Medium	Black to grey	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW213	21/04/2021	1 - 4.5	3.86	27/04/2021	5.16	1.900	3.762	1.862	Good	3.18	6557	6.43	-30.7	29.0	Turbid	Black to grey	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW214	16/09/2020	1 - 5	3.60	27/04/2021	4.90	2.385	3.663	1.278	Good	4.78	49035	6.63	92.4	28.0	Medium	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW215	16/09/2020	1 - 7	5.25	27/04/2021	6.55	2.454	3.269	0.815	Good	3.93	5990	7.08	82.2	27.5	Turbid	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW216	14/09/2020	1 - 4.5	3.02	27/04/2021	4.32	1.304	3.544	2.240	Good	3.59	515	6.23	54.5	29.0	Turbid	Light brown	No odour	No sheen	Gatic flooded below TOC. Sediment on IP and at bottom of HydraSleeve
0874	MW217	16/09/2020	2 - 6	4.48	29/04/2021	5.78	1.389	3.271	1.882	Good	3.17	33509	6.62	142.0	28.1	Medium	Grey	No odour	No sheen	Gatic flooded below TOC. Sediment at bottom of HydraSleeve
0874	MW218	16/09/2020	2 - 6	3.93	27/04/2021	5.23	0.955	2.908	1.953	Good	2.08	30797	6.37	103.2	28.0	Low	Light brown	No odour	No sheen	Gatic flooded below TOC. Sediment on IP, weight and in HydraSleeve
0874	MW219	16/09/2020	3 - 11	8.44	29/04/2021	9.74	1.781	4.408	2.627	Good	4.03	10887	6.98	23.7	27.9	Turbid	Grey to brown	Weak sulfurous odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW220	29/04/2021	1 - 6.5	4.09	30/04/2021	5.39	0.729	4.183	3.454	Good	3.54	2861	6.89	28.1	25.7	Medium	Grey to brown	No odour	No sheen	
0874	MW221	16/09/2020	1 - 6	4.26	30/04/2021	5.56	1.226	3.813	2.587	Good	1.78	13930	6.49	1.8	27.8	Turbid	Grey	Weak sulfurous odour	No sheen	Sediment on IP and in HydraSleeve, roots on HydraSleeve collar
0874	MW225	14/09/2020	1 - 7	5.54	29/04/2021	6.84	1.423	5.585	4.162	Good	3.47	3151	7.03	13.7	29.9	Low	Yellow to brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW231	20/04/2020	1 - 5	4.32	28/04/2021	5.62	2.317	3.013	0.696	Good	1.89	31645	6.77	6.0	24.2	Turbid	Light brown	Weak sulfurous odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW233	14/09/2020	1.5 - 3.9	2.73	27/04/2021	4.03	1.204	2.900	1.696	Good	6.69	354.4	7.54	63.7	27.3	Low	Clear	No odour	No sheen	
0874	MW236	21/04/2020	2 - 7	5.32	21/04/2021	6.62	2.369	5.441	3.072	Good	3.58	5668	7.11	98.6	29.4	Low	Yellow to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW237	21/04/2020	1 - 6	5.22	28/04/2021	6.52	2.113	8.050	5.937	Good	1.77	16923	7.02	45.8	23.8	Medium	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW238	21/04/2020	1 - 6	4.21	27/04/2021	5.51	1.581	7.006	5.425	Good	4.65	1117	7.83	77.5	28.6	Medium	Yellow to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW239	27/04/2021	1 - 7	4.98	30/04/2021	6.28	2.391	6.508	4.117	Good	2.61	950	6.87	-50.8	27.1	Medium	Yellow to brown	No odour	No sheen	
0874	MW240	21/04/2020	1 - 6	4.65	27/04/2021	5.95	1.591	6.561	4.970	Good	3.63	2092	8.16	79.1	26.8	Low	Light yellow	No odour	No sheen	Sediment at bottom of HydraSleeve. J cap not sealing due to hardened sediment built up in gatic
0874	MW252	14/09/2020	1.5 - 4	2.72	27/04/2021	4.02	1.559	3.038	1.479	Good	3.10	830	7.31	-39.4	27.9	Low	Light yellow	No odour	No sheen	Roots on HydraSleeve collar
0874	MW253	16/04/2021	1.5 - 4	3.12	27/04/2021	4.42	2.719	4.100	1.381	Good	1.60	4340	7.01	-68.0	28.2	Medium	Yellow	No odour	No sheen	Discovered with J cap removed and lock missing, HydraSleeve potentially tampered with.
0874	MW254	21/04/2020	2 - 7.5	6.17	21/04/2021	7.47	1.045	3.667	2.622	Good	2.70	58718	6.54	64.4	29.7	Clear	Clear	Weak sulfurous odour	No sheen	
0874	MW255	09/09/2020	1.5 - 7.5	3.67	20/04/2021	4.97	1.308	3.121	1.813	Good	1.78	84984	6.01	180.6	28.4	Medium	Grey	No odour	No sheen	
0874	MW256	21/04/2020	1.5 - 5	3.61	21/04/2021	4.91	0.756	5.562	4.806	Good	3.81	1553	7.00	62.5	29.8	Low	Light brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW257	21/04/2020	1 - 4	2.71	21/04/2021	4.01	1.334	5.865	4.531	Good	3.10	1457	8.19	25.3	30.7	Low	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW258	21/04/2020	1 - 5	3.59	21/04/2021	4.89	2.507	6.104	3.597	Good	4.85	2215	7.54	85.6	31.5	Low	Yellow to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve
0874	MW259	21/04/2020	1.5 - 5	3.69	21/04/2021	4.99	2.033	4.664	2.631	Damaged	4.34	1679	7.41	97.6	30.7	Low	Yellow to brown	No odour	No sheen	Sediment on IP and at bottom of HydraSleeve. 2 x bolts damaged, opened with screwdriver
0874	MW260	21/04/2020	1.5 - 5.1	3.55	21/04/2021	4.85	1.894	4.312	2.418	Good	3.58	3845	7.33	110.3	30.9	Medium	Light brown	No odour	No sheen	Sediment at bottom of HydraSleeve and on IP
0874	MW261	21/04/2020	4.2 - 10.2	8.85	29/04/2021	10.15	7.609	16.498	8.889	Good	2.87	716	6.48	-20.0	27.9	Low	Clear	No odour	No sheen	
0874	MW262	21/04/2020	1.5 - 5.5	3.99	21/04/2021	5.29	1.745	3.643	1.898	Good	2.57	57477	5.20	138.6	29.4	Clear	Clear	No odour	No sheen	Gatic flooded below TOC
0874	MW263	14/09/2020	1.5 - 4	2.21	22/04/2021	3.51	0.799	3.939	3.140	Good	1.01	765	6.52	-40.1	29.3	Low	Light yellow	No odour	No sheen	Roots on HydraSleeve collar
0874	MW264	14/09/2020	1 - 5.6	4.23	21/04/2021	5.53	1.157	3.190	2.033	Good	2.86	24185	6.61	-6.8	29.9	Clear	Clear	Distinct putrefied odour	No sheen	Gatic flooded below TOC
0874	MW266	21/04/2020	1.5 - 5	3.74	29/04/2021	5.04	1.296	3.228	1.932	Good	3.22	13090	7.13	-99.0	27.8	Medium	Light brown	Strong sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW267	19/04/2021	1.5 - 5	3.47	29/04/2021	4.77	1.889	4.134	2.245	Good	2.62	7616	6.61	-162.0	27.7	Turbid	Light brown	Strong sulfurous odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW268	21/04/2020	1.5 - 4.9	3.63	22/04/2021	4.93	1.747	3.626	1.879	Good	24.40	11144	6.67	-148.1	28.4	Low	Yellow to brown	Very strong sulfurous odour	No sheen	Roots on HydraSleeve collar, sediment in bottom of HydraSleeve
0874	MW269	21/04/2020	1.5 - 5	3.71	29/04/2021	5.01	1.861	5.456	3.595	Good	6.74	221.2	6.09	165.3	29.6	Clear	Clear	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW270	21/04/2020	1.5 - 5	4.15	22/04/2021	5.45	0.895	5.019	4.124	Good	2.26	13590	6.83	47.2	29.1	Medium	Yellow to brown	No odour	No sheen	Sediment at bottom of HydraSleeve
0874	MW301	16/04/2021	2 - 5	3.62	27/04/2021	4.92	2.199	3.940	1.741	Good	3.90	1351	7.52	-32.2	31.6	Clear	Clear	No odour	No sheen	Gatic flooded below TOC, roots on HydraSleeve collar
0874	MW467	16/04/2021	NA	3.32	27/04/2021	4.62	1.672	3.494	1.822	Good	1.97	462.1	7.40	-75.8	27.0	Clear	Clear	Weak sulfurous odour	No sheen	No lock on monument, ants in monument, well and in HydraSleeve
0874	MW471	16/04/2021	NA	3.51	28/05/2021	4.81	2.325	NA	-	Good	2.91	554	6.83	194.7	23.5	Low	Light yellow	No odour	No sheen	Sand on IP and HydraSleeve collar, some ants in HydraSleeve

NA - Well construction details are not available in ESdat for some wells
mbtoc - metres below top of casing
TOC - top of casing
mAHD - metres above Australian Height Datum
DO - Dissolved Oxygen
EC - Electrical Conductivity
Redox - Reduction Oxidation Potential
Temp - Temperature
mg/L - milligrams per litre
µS/cm - microsiemens per centimetre
mV - millivolt
°C - degrees Celcius
"-" denotes no data collected

Table T3: Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS					
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01					
PFAS NEMP Freshwater and Marine Water 95% Species Protection																												0.13	220							
Location ID	Sample ID	Lab Report Number	Sample Date																																	
Sub-Management Area One																																				
MW013	0874_MW013_210506	EB2112383	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	<0.5	186	12.8	249	376				
MW116	0874_MW116_210429	EB2111812	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3				
MW118	0874_MW118_210421	EB2110866	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.27	0.39	0.18	0.18	<0.05	<0.02	<0.02	<0.02	0.56	0.03	0.95	2.33					
MW126	0874_MW126_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	26.3	9.1	<1	<1	<1	15	8.9	77.8	137	13.2	27.3	<2.5	<1	<1	<1	154	25.9	291	494					
MW129	0874_MW129_210421	EB2110866	21/04/2021	<0.07	10.1	1.39	0.12	<0.19	<0.07	<0.19	<0.07	<0.19	2.69	6.9	0.1	<0.07	<0.07	0.78	0.28	5.87	3.6	10.3	1.11	<0.19	<0.07	<0.07	0.15	12.6	0.97	16.2	57					
Sub-Management Area Two																																				
MW005	0874_MW005_210429	EB2111812	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	38	<50	<10	<10	<10	19	37	148	757	27	41	<25	<10	<10	<10	373	25	1130	1460					
MW015	0874_MW015_210429	EB2111812	29/04/2021	<2.17	<2.17	<2.17	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	119	26.3	<2.17	<2.17	<2.17	39.1	67.8	349	1440	59.3	189	<5.43	<2.17	<2.17	<2.17	440	59.6	1880	2790					
MW016	0874_MW016_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	21.4	7.5	<1	<1	<1	6.9	14.6	54	247	11.2	24.4	<2.5	<1	<1	<1	153	12.7	400	553					
MW021	0874_MW021_210429	EB2111812	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	618	269	<10	<10	<10	320	1100	2340	15,400	414	943	<25	<10	<10	<10	10,700	803	26,100	32,900					
MW046	0874_MW046_210428	EB2111812	28/04/2021	<0.43	<0.43	<0.43	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	4.96	<2.2	<0.43	<0.43	<0.43	2.56	9	36.2	123	3.87	8.91	<1.09	<0.43	<0.43	<0.43	93.5	6.22	216	288					
MW054	0874_MW054_210428	EB2111812	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7					
MW055	0874_MW055_210428	EB2111812	28/04/2021	<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	6.68	<2.3	<0.45	<0.45	<0.45	3.27	4.04	20.4	64.4	5.09	11.1	<1.14	<0.45	<0.45	<0.45	170	8.14	234	293					
MW081	0874_MW081_210428	EB2111812	28/04/2021	<2.32	<2.32	<2.32	<2.32	<5.81	<2.32	<5.81	<2.32	<5.81	220	28.1	<2.32	<2.32	<2.32	154	610	953	7230	99.5	630	<5.81	<2.32	<2.32	<2.32	4160	369	11,400	14,400					
MW090	0874_MW090_210428	EB2111812	28/04/2021	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.29	<0.01	0.48	0.51						
MW109	0874_MW109_210429	EB2111812	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679					
MW110	0874_MW110_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233					
MW138	0874_MW138_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	8.6	5.2	<1	<1	<1	2.2	3.3	19.4	56	5.6	8.6	<2.5	<1	<1	<1	83.1	2.9	139	195					
MW139	0874_MW139_210429	EB2111812	29/04/2021	<10	27	<10	<10	<25	<10	<25	<10	<25	53	<50	<10	<10	<10	29	64	161	407	36	47	<25	<10	<10	<10	1520	57	1930	2400					
MW246	0874_MW246_210430	EB2111836	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.23	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.02	0.57	0.84					
MW250	0874_MW250_210421	EB2110866	21/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.47	0.1	<0.02	<0.03	<0.02	0.03	0.07	0.54	2.87	0.15	0.32	<0.05	<0.02	<0.02	<0.02	1.51	0.05	4.38	6.23					
MW251	0874_MW251_210429	EB2111812	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.48	<0.2	<0.05	<0.05	<0.05	0.21	0.27	2.34	6.76	0.4	1.2	<0.12	<0.05	<0.05	<0.05	1.75	0.24	8.51	14.6					
Sub-Management Area Three																																				
MW009	0874_MW009_210429	EB2111812	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.19	<0.25	<0.1	<0.25	1.29	<0.5	<0.1	<0.1	<0.1	0.45	0.85	2.91	10.3	0.58	1.31	<0.25	<0.1	<0.1	<0.1	16.6	1.11	26.9	35.6			
MW038	0874_MW038_210429	EB2111812	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.33	<0.2	<0.05	<0.05	<0.05	0.1	0.21	0.48	2.58	0.14	0.34	<0.12	<0.05	<0.05	<0.05	6.02	0.16	8.6	10.4					
MW043	0874_MW043_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	2.4	<5	<1	<1	<1	1.9	4.3	11.2	80.7	2	3.1	<2.5	<1	<1	<1	168	5.6	249	279					
MW114	0874_MW114_210428	EB2111812	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1					
MW125	0874_MW125_210429	EB2111812	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884						
MW142	0874_MW142_210421	EB2110866	21/04/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.2	0.27					
MW247	0874_MW247_210429	EB2111812	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	1.5	<5	<1	<1	<1	3.2	7.3	28	1.5	2	<2.5	<1	<1	<1	121	2.4	149	167						
MW248	0874_MW248_210506	EB2112383	6/05/2021	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	36.2	<12.5	<2.5	<2.5	<2.5	10.2	46.5	106	432	16.8	43.8	<6.25	<2.5	<2.5	<2.5	1110	41	1540	1840					
Remaining On-Base																																				
MW002	0874_MW002_210428	EB2111812	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.78	0.2	<0.02	<0.02	<0.02	0.08	0.09	1.2	3.01	0.25	0.62	<0.05	<0.02	<0.02	<0.02	1.53								

Property ID	Sample ID	Sample Date	DO mg/L	EC µS/cm	pH	Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Weather	Sample Location Morphology
On-Base													
Bohle River/Louisa Creek/Town Common Catchment													
0874	SW013	22/04/2021	2.49	3388	6.66	132.4	25.7	Low	Pale yellow	No odour	No sheen	Overcast	Wetland, 0.4 m water depth, not flowing
0874	SW014	22/04/2021	4.73	201.6	7.71	123.1	24.5	Low	Pale yellow	No odour	Biosheen Appearance	Overcast	Earthen drain, 0.4 m water depth, not flowing
0874	SW016	22/04/2021	12.04	737	9.27	71.3	25.9	Low	Pale yellow	Distinct organic odour	Biosheen Appearance	Overcast	Wetland, 0.4 m water depth, not flowing
0874	SW019	22/04/2021	4.22	218.2	7.02	125.4	24.9	Clear	Pale yellow	No odour	No sheen	Light Rain	Earthen drain, 0.1 m water depth, not flowing
0874	SW112	16/04/2021	6.96	1697	7.47	99.3	29.5	Clear	Pale brown	Weak sulfurous odour	No sheen	Hot & Dry	Earthen drain, 3 m width, <1 m water depth, not flowing
0874	SW123	22/04/2021	2.23	391.1	6.70	133.3	25.9	Low	Pale yellow	Distinct organic odour	No sheen	Light Rain	Earthen drain, 0.4 m water depth, not flowing
0874	SW125	22/04/2021	5.80	2671	7.22	150.1	25.4	Low	Pale yellow	No odour	No sheen	Overcast	Wetland, 0.1 m water depth, not flowing
0874	SW126	22/04/2021	3.37	2202	6.75	189.0	25.1	Low	Pale yellow	No odour	No sheen	Overcast	Earthen and concrete drain leading to pond, 0.2 m water depth, not flowing
0874	SW131	16/04/2021	0.57	1027	6.47	-41.5	25.6	Clear	Pale yellow	No odour	No sheen	Hot & Dry	Earthen and concrete drain, 0.5 m water depth, flowing south
Mundy Creek Catchment													
0874	SW001	22/04/2021	4.61	756	7.63	102.6	25.5	Clear	Pale yellow	No odour	No sheen	Light Rain	Concrete drain, 0.05 m water depth, not flowing
0874	SW010	22/04/2021	6.28	3553	7.76	116.8	-	Low	Pale yellow	Distinct putrefied odour	No sheen	Light Rain	Earthen drain, 0.1 m water depth, flowing north
0874	SW106	-	-	-	-	-	-	-	-	-	-	-	Unable to access
0874	SW121	22/04/2021	5.17	117.5	7.29	109.2	24.5	Low	Pale yellow	No odour	No sheen	Light Rain	Earthen drain, 0.1 m water depth, not flowing
0874	SW132	22/04/2021	7.77	764	8.68	97.2	24.7	Clear	Pale yellow	No odour	No sheen	Light Rain	Concrete drain, 0.1 m water depth, not flowing
Three Mile Creek Catchment													
0874	SW102	22/04/2021	2.64	4850	6.81	137.1	25.9	Low	Pale yellow	No odour	Biosheen Appearance	Overcast	Earthen and concrete drain, 0.5 m water depth, not flowing
Off-Base													
Bohle River/Louisa Creek/Town Common Catchment													
0874	SW017	15/04/2021	5.56	2618	7.71	58.6	27.6	Clear	Pale yellow	No odour	Sheen	Hot & Dry	Earthen and concrete drain, 0.8 m water depth, not flowing
0874	SW021	15/04/2021	4.31	1592	7.45	-69.6	28.5	Clear	Pale yellow	No odour	No sheen	Hot & Dry	Earthen drain, 0.4 m water depth, not flowing
0874	SW110	20/04/2021	7.79	1112	7.28	69.4	27.0	Medium	Dark olive brown	Distinct organic odour	Biosheen Appearance	Overcast	Wetland, 0.1 m water depth, not flowing
0874	SW111	20/04/2021	7.33	1095	7.26	36.7	27.8	Low	Dark olive brown	No odour	Biosheen Appearance	Overcast	Wetland, 0.2 m water depth, not flowing
0874	SW120	15/04/2021	9.53	3371	8.11	58.2	31.8	Low	Pale yellow	No odour	No sheen	Hot & Dry	Earthen drain, 0.5 m water depth, not flowing
0874	SW127	22/04/2021	5.20	177.9	7.03	114.5	24.0	Low	Pale yellow	No odour	No sheen	Light Rain	Concrete drain, 20 m width, <1 m water depth, not flowing
0874	SW129	20/04/2021	8.15	1360	8.16	74.4	26.5	Low	Pale yellow	No odour	No sheen	Overcast	Bohle River 20 m width, 0.5 m water depth, flowing north
0874	SW201	-	-	-	-	-	-	-	-	-	-	-	Unable to access
0874	SW202	15/04/2021	8.49	21765	7.35	163.0	29.3	Low	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River mouth 250 m width, <1 m water depth, flowing north
0874	SW203	15/04/2021	6.98	40530	7.80	97.4	30.7	Clear	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River 90 m width, <1 m water depth, flowing north west
0874	SW204	15/04/2021	7.23	41333	7.90	90.0	28.9	Low	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River 20 m width, <1 m water depth, flowing north west
0874	SW205	15/04/2021	5.01	8280	7.23	89.6	31.5	Clear	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River 10 m width, <1 m water depth, flowing north west
0874	SW206	15/04/2021	7.58	9686	7.57	97.3	30.1	Low	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River 30 m width, <1 m water depth, flowing north west
0874	SW207	15/04/2021	7.03	250	7.03	90.0	28.1	Low	Olive yellow	No odour	No sheen	Hot & Dry	Bohle River 10 m width, <1 m water depth, flowing north west
Mundy Creek Catchment													
0874	SW108	20/04/2021	11.81	12696	8.35	139.8	28.7	Low	Pale yellow	No odour	No sheen	Overcast	Wetland, 0.6 m water depth, not flowing
0874	SW109	20/04/2021	6.66	1931	7.47	113.5	26.9	Low	Pale yellow	No odour	No sheen	Overcast	Tidal creek 5 m width, <1 m water depth, incoming tide
0874	SW113	6/05/2021	5.80	3539	7.29	-59.0	27.9	Low	Olive yellow	Distinct sulfurous odour	Biosheen Appearance	Hot & Dry	Earthen drain, 15 m width, <1 m water depth, not flowing
0874	SW114	22/04/2021	5.57	4365	6.93	122.4	25.1	Low	Pale yellow	No odour	No sheen	Overcast	Creek 1 m width, 0.1 m water depth, not flowing
0874	SW115	16/04/2021	6.96	3000	7.27	140.9	26.5	Low	Pale brown	No odour	No sheen	Hot & Dry	Creek 1 m width, 0.1 m water depth, not flowing
0874	SW116	20/04/2021	6.87	1104	7.65	110.9	26.2	Low	Yellowish brown	No odour	No sheen	Overcast	Creek 1 m width, 0.5 m water depth, not flowing
0874	SW117	16/04/2021	3.25	1675	7.26	170.4	25.6	Clear	Yellowish brown	Distinct sulfurous odour	No sheen	Hot & Dry	Concrete drain, 0.3 m water depth, not flowing
0874	SW118	16/04/2021	3.48	3458	6.94	135.2	25.4	Medium	Pale brown	Distinct sulfurous odour	No sheen	Hot & Dry	Creek 4 m width, 0.2 m water depth, not flowing
0874	SW119	22/04/2021	4.99	144.3	7.88	109.2	25.3	Medium	Yellow	No odour	No sheen	Light Rain	Concrete drain, 3 m width, 0.6 m water depth, flowing north
0874	SW208	20/04/2021	7.05	1406	7.78	95.1	26.3	Low	Pale yellow	No odour	No sheen	Overcast	Tidal creek 6 m width, <1 m water depth, incoming tide
0874	SW209	-	-	-	-	-	-	-	-	-	-	-	Unable to access
Three Mile Creek Catchment													
0874	SW107	20/04/2021	7.43	4294	7.29	76.7	26.6	Medium	Yellowish brown	No odour	Biosheen Appearance	Overcast	Wetland, 0.1 m water depth, not flowing
0874	SW210	16/04/2021	6.12	21253	7.32	150.6	30.1	Low	Pale brown	Brakish odour	No sheen	Hot & Dry	Tidal creek 5 m width, <1 m water depth, outgoing tide

DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celcius
 "-" denotes no sample collected

Table T5: Surface Water PFAS Analytical Results

				4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFPA	Sum of PFOS and PFHxS	Sum of PFAS					
Units				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR				0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																						
NHMRC - Recreational Use - Surface Water																																						
Location ID	Sample ID	Lab Report Number	Sample Date																																			
On-Base																																						
Bohle River/Louisa Creek/Town Common Catchment																																						
SW013	0874_SW013_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.19	0.47	0.05	0.08	<0.05	<0.02	<0.02	<0.02	0.19	0.03	0.66	1.19					
SW014	0874_SW014_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02					
SW016	0874_SW016_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	<0.02	0.51	0.19	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	0.61	0.03	0.95	2.43					
SW019	0874_SW019_210422	EB2111376	22/04/2021	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	<0.02	0.15	0.37	1.07	2.94	0.28	0.43	<0.05	<0.02	<0.02	<0.02	5.63	0.29	8.57	11.9				
SW112	0874_SW112_210416	EB2110367	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.31	0.75	2.26	6.76	0.54	1.58	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.24	0.34				
SW123	0874_SW123_210422	EB2111376	22/04/2021	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.29	0.3	<0.02	<0.02	<0.02	0.31	0.75	2.26	6.76	0.54	1.58	<0.05	<0.02	<0.02	<0.02	6.42	0.49	13.2	20.8					
SW125	0874_SW125_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.1	<0.02	<0.02	<0.02	0.08	0.16	1.21	2.56	0.22	0.43	<0.05	<0.02	<0.02	<0.02	3.78	0.12	6.34	9.06					
SW126	0874_SW126_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.75	0.2	<0.02	<0.02	<0.02	0.09	0.11	1.03	2.18	0.26	0.52	<0.05	<0.02	<0.02	<0.02	2.1	0.13	4.28	7.37					
SW131	0874_SW131_210416	EB2110367	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.2	<0.02	<0.02	<0.02	0.09	0.12	0.91	2.52	0.18	0.32	<0.05	<0.02	<0.02	<0.02	2.68	0.16	5.2	7.46					
Mundy Creek Catchment																																						
SW001	0874_SW001_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37	3.42					
SW010	0874_SW010_210422	EB2111376	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54					
SW121	0874_SW121_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.29	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.49	0.02	0.78	1.04						
SW132	0874_SW132_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.1	<0.02	<0.02	<0.02	0.2	0.18	0.85	2.09	0.2	0.41	<0.05	<0.02	<0.02	<0.02	3.2	0.28	5.29	7.89					
Three Mile Creek Catchment																																						
SW102	0874_SW102_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.1	<0.02	<0.02	<0.02	0.1	0.08	1.22	3.75	0.19	0.79	<0.05	<0.02	<0.02	<0.02	0.9	0.09	4.65	8.02					
Off-Base																																						
Bohle River/Louisa Creek/Town Common Catchment																																						
SW017	0874_SW017_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.02	0.2	0.29					
SW021	0874_SW021_210415	EB2110367	15/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.34	0.08	0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.02	0.42	0.89					
SW110	0874_SW110_210420	EB2110866	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	0.1	<0.02	<0.02	<0.02	0.04	0.04	0.46	1.12	0.1	0.18	<0.05	<0.02	<0.02	<0.02	1.09	0.06	2.21	3.4					
SW111	0874_SW111_210420	EB2110866	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	0.1	<0.02	<0.02	<0.02	0.06	0.09	0.75	1.98	0.16	0.24	<0.05	<0.02	<0.02	<0.02	1.76	0.1	3.74	5.49					
SW120	0874_SW120_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.28	0.41					
SW127	0874_SW127_210422	EB2111376	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.08					
SW129	0874_SW129_210420	EB2110866	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01					
SW202	0874_SW202_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08					
SW203	0874_SW203_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.06	0.06					
SW204	0874_SW204_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.06	0.06					
SW205	0874_SW205_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.3	0.03	0.04	<0.05	<0.02	<0.02	<0.02	0.5	0.02	0.8	1.04					
SW206	0874_SW206_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.24	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.02	0.58	0.78					
SW207	0874_SW207_210415	EB2110367	15/04/2021	<0.05	<0.05	<0.05																																

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle River/Louisa Creek/Town Common Catchment				
0874	SD013	22/04/2021	Silty CLAY, medium plasticity, brown, saturated, high organic content	Decaying organic odour
0874	SD014	22/04/2021	Silty GRAVEL, coarse gravel, dark brown, saturated, low organic content	No odour
0874	SD016	22/04/2021	Silty CLAY, low plasticity, grey to brown, saturated, high organic content	Decaying organic odour
0874	SD019	22/04/2021	Silty SAND, medium grained, loose, pale brown, moist	No odour
0874	SD112	16/04/2021	Sandy Gravelly SILT, non-plastic, grey, saturated, with medium sands and fine gravels, with some clay inclusions and high organic content (leaves and roots)	No odour
0874	SD123	22/04/2021	Sandy CLAY, low plasticity, orange to brown, moist, medium grained sands, with a trace of coarse gravel, medium organic content	No odour
0874	SD125	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine to coarse gravels, low organic content	No odour
0874	SD126	22/04/2021	Gravelly SILT, non-plastic, dark brown, saturated, fine gravels, high organic content	Organic odour
0874	SD131	16/04/2021	Silty CLAY, low plasticity, dark grey, saturated, with high organic content (leaves and roots)	Slight sulfur odour
Mundy Creek Catchment				
0874	SD001	22/04/2021	Silty GRAVEL, medium gravel, very loose, brown, saturated	No odour
0874	SD010	22/04/2021	Sandy CLAY, high plasticity, orange to brown, saturated, with a trace of medium gravels and some organic content	Organic odour
0874	SD106	-	Unable to access	
0874	SD121	22/04/2021	Clayey SILT, non-plastic, dark brown, saturated, high organic content	Organic odour
0874	SD132	22/04/2021	GRAVEL, fine to medium sub rounded to sub angular gravel, very loose, brown, saturated	No odour
Three Mile Creek Catchment				
0874	SD102	22/04/2021	Gravelly CLAY, low plasticity, grey to brown, saturated, fine gravels, low organic content	No odour
Off-Base				
Bohle River/Louisa Creek/Town Common Catchment				
0874	SD017	15/04/2021	Silty SAND, coarse grained, black, saturated, high organic content (roots)	No odour
0874	SD021	15/04/2021	Clayey SAND, coarse grained, dark grey, saturated, with organic matter (roots)	No odour
0874	SD110	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
0874	SD111	20/04/2021	Silty CLAY, medium plasticity, black, moist, soft, high organic content	No odour
0874	SD120	15/04/2021	Sandy CLAY, low plasticity, black and brown, saturated, coarse subangular sands and some organics (roots)	No odour
0874	SD127	-	No sediment present, no sample collected.	-
0874	SD129	20/04/2021	Clayey SAND, fine grained, grey with red to orange mottles, loose, saturated, with a trace of silt	No odour
0874	SD201	-	Unable to access	
0874	SD202	15/04/2021	Clayey SILT, low plasticity, grey, saturated, with trace of fine grained sands	No odour
0874	SD203	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
0874	SD204	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with shells	No odour
0874	SD205	15/04/2021	Sandy CLAY, low plasticity, grey with orange inclusions, saturated, coarse grained sands, with silt	No odour
0874	SD206	15/04/2021	Silty CLAY, low plasticity, grey, saturated, with organic inclusions	No odour
0874	SD207	15/04/2021	Sandy CLAY, medium plasticity, brown, saturated, with some fine angular gravels	No odour
Mundy Creek Catchment				
0874	SD108	20/04/2021	Silty SAND, fine grained, grey to black, moist, loose, high organic content	Organic odour
0874	SD109	20/04/2021	Silty SAND, fine grained, grey to brown, moist, loose, some broken shells and some medium to coarse subangular gravels	No odour
0874	SD113	6/05/2021	Silty CLAY, dark grey, saturated, with some organic content	Distinct sulfur odour
0874	SD114	22/04/2021	Sandy CLAY, high plasticity, soft, red, orange and brown mottles, saturated	No odour
0874	SD115	16/04/2021	Silty CLAY, low plasticity, black, saturated, with some medium grained sands, some organic content (leaves)	No odour
0874	SD116	20/04/2021	CLAY, high plasticity, brown with black mottles, saturated, firm, some coarse sands and coarse angular gravels, with a trace of organic content	Organic odour
0874	SD117	16/04/2021	Silty Gravelly CLAY, low plasticity, black, saturated, fine to medium sub angular gravels, high organic content (leaves and sticks)	Distinct sulfur odour
0874	SD118	16/04/2021	Sandy CLAY, low plasticity, black to grey, saturated, coarse sands, with fine layer of silt at surface, high organic content (leaves and sticks)	Decaying organic odour
0874	SD119	-	No sediment present, no sample collected.	-
0874	SD208	20/04/2021	CLAY, medium to high plasticity, black with red to orange mottles, moist, soft, with a trace of coarse angular sands and some organic content	Organic odour
0874	SD209	-	Unable to access	
Three Mile Creek Catchment				
0874	SD107	20/04/2021	SILT, non-plastic, black, moist, soft, high organic and decomposing organic content	Organic odour
0874	SD210	16/04/2021	Sandy Clayey SILT, non-plastic, dark grey, saturated, fine sands, with some organic content (leaves and roots)	No odour

"-" denotes no sample taken

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220		
Location ID	Sample Date																																		
Sub-Management Area 1																																			
MW013	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951				
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189				
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266				
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485				
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554				
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303				
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426				
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413				
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264				
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376				
MW116	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261				
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214	408				
	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628				
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147				
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103				
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117				
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258				
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109				
	11/09/2020	<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337				
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3				
MW118	27/07/2017	<0.05	0.25	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98				
	28/07/2017	<0.05	0.24	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53				
	17/08/2017	<0.05	0.28	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08				
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41				
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	0.232	0.02	0.454	0.926					
	2/05/2019	0.001	0.888	0.081	<0.001	<0.0005	<0.001	0.0005	<0.001	0.0005	<0.0005	<0.001	0.584	0.076	0.0044	0.001	<0.0005	0.397	0.198	1.09	2.34	0.47	0.421	<0.0005	<0.0005	<0.0005	0.0527	9.15	0.609	11.5	16.4				
	15/10/2019	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	0.6	<0.02	<0.02	<0.02	0.25	0.12	0.8	1.69	0.48	0.31	<0.05	<0.02	<0.02	0.03	4.97	0.39	6.66	10.6				
	29/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.2	<0.02	<0.02	<0.02	0.04	0.03	0.2	0.51	0.1	0.14	<0.05	<0.02	<0.02	<0.02	1.36	0.06	1.87	2.83				
	10/09/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.95	0.7	<0.02	<0.02	<0.02	0.09	0.04	0.72	0.81	0.49	0.32	<0.05	<0.02	<0.02	<0.02	1.65	0.12	2.46	5.99				
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.27	0.39	0.18	0.18	<0.05	<0.02	<0.02	<0.02	0.56	0.03	0.95	2.33				
MW126	15/08/2017	<0.05	1.21	0.16	<0.05	<0.05	<0.02	<0.05	0.31	<0.05	<0.02	<0.05	14.8	5	0.07	0.5	<0.02	10.9	10.7	52.9	84.6	11.1	13.7	<0.05	<0.02	<0.02	<0.02	367	24.9	452	598				
	24/01/2018																																		

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220				
Location ID	Sample Date																															
MW021	16/08/2017	<0.05	0.59	0.13	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	11.8	4.2	<0.02	0.03	<0.02	4.4	18.9	75.1	229	2.42	16.3	<0.05	<0.02	<0.02	0.07	479	9.45	708	852	
	16/04/2018	<0.05	0.6	0.14	<0.05	<0.05	<0.02	<0.05	0.29	<0.05	<0.02	<0.05	13	4.5	<0.02	0.2	<0.02	4.08	13.4	34.4	158	6.34	14	<0.05	<0.02	<0.02	0.1	355	7.61	513	612	
	19/12/2018	<0.020	0.438	0.096	<0.020	<0.050	<0.0200	<0.050	0.152	<0.050	<0.0200	<0.050	7.92	0.428	0.02	0.068	<0.0200	2.53	10.2	18.1	84.6	3.81	9.63	<0.0500	<0.0200	<0.0200	0.072	141	5.58	226	285	
	30/04/2019	<0.10	0.29	0.28	<0.10	<0.25	<0.10	<0.25	0.42	<0.25	<0.10	<0.25	7.9	<0.5	<0.10	<0.10	<0.10	2.53	8.35	20.7	89.2	1.9	8.45	<0.25	<0.10	<0.10	<0.10	162	6.4	251	308	
	16/10/2019	<0.05	0.76	0.07	<0.05	<0.05	<0.02	<0.05	0.29	<0.05	<0.02	<0.05	18.4	7.8	<0.02	0.06	<0.02	6.08	16.4	48.3	202	10.5	17.7	<0.05	<0.02	<0.02	0.12	192	12.4	394	533	
	30/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	500	264	<5.00	<5.00	<5.00	261	664	1,970	9,910	346	866	<12.5	<5.00	<5.00	<5.00	4,580	516	14,500	19,900	
	7/09/2020	<25	<25	<25	<25	<62.5	<25	<62.5	<25	<62.5	<25	<62.5	600	290	<25	<25	<25	240	632	2,070	10,900	388	720	<62.5	<25	<25	<25	5,460	608	16,400	21,900	
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	618	269	<10	<10	<10	320	1,100	2,340	15,400	414	943	<25	<10	<10	<10	10,700	803	26,100	32,900	
	MW046	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.98	1	<0.02	<0.02	<0.02	1.57	7.54	52.6	156	<0.02	7.77	<0.05	<0.02	<0.02	0.02	190	4.32	346	425
		16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.04	1.2	<0.10	<0.10	<0.10	1.55	6.64	23.4	88.7	2.42	6.96	<0.25	<0.10	<0.10	<0.10	149	3.62	238	288
20/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	8.5	0.312	<0.0200	<0.0200	<0.0200	3.45	10.3	70.7	186	4.54	13.7	<0.0500	<0.0200	<0.0200	0.054	87.1	8.12	273	393	
30/04/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	10.7	<0.2	<0.05	<0.05	<0.05	4.57	14.4	63.3	242	2.27	17	<0.12	<0.05	<0.05	0.05	117	11	359	482	
30/05/2019		<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	11.5	<5	<1	<1	<1	5.6	12.6	82.8	255	7.5	13	<2.5	<1	<1	<1	74.3	11	329	473	
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	12.1	3.2	<0.02	<0.02	<0.02	4.92	12.7	86.2	282	7.41	19.1	<0.05	<0.02	<0.02	0.07	90	11.5	372	529	
27/04/2020		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	15.4	<9.5	<0.50	<0.50	<0.50	6.8	16.5	94	323	8.3	25.3	<1.25	<0.50	<0.50	<0.50	127	14.1	450	630	
7/09/2020		<0.32	<0.32	<0.32	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	9.61	3.1	<0.32	<0.32	<0.32	4.39	12.2	69.4	204	5.8	15.2	<0.8	<0.32	<0.32	<0.32	92.7	10.6	297	427	
28/04/2021		<0.43	<0.43	<0.43	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	4.96	<2.2	<0.43	<0.43	<0.43	2.56	9	36.2	123	3.87	8.91	<1.09	<0.43	<0.43	<0.43	93.5	6.22	216	288	
30/06/2017		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102	
MW054	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2	
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7	
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99	
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161	
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152	
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143	
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154	
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7	
	MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	0.39	194	12.3	290	396
16/04/2018		<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2	
18/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	<0.0200	2.45	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257	
29/04/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198	
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	63.2	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254	
27/04/2020		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235	
7/09/2020		<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	<0.24	3	3.61	25.2	61.5	5.05	8.95									

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220			
Location ID	Sample Date																														
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233
	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.12	<0.05	<0.12	0.56	<0.05	<0.12	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
29/07/2017	<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
MW138	15/08/2017	<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370
	30/04/2019	<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	55.1	80.6
	16/10/2019	<0.05	0.16	0.11	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	6.58	3.3	0.03	<0.02	<0.02	1.52	3.37	14.6	49	4.19	5.77	<0.05	<0.02	<0.02	0.06	60.4	2.76	109	152
	27/04/2020	<0.50	0.95	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	38.6	<16.8	<0.50	<0.50	<0.50	11.4	19.2	95.4	339	20.2	42.2	<1.25	<0.50	<0.50	<0.50	384	17.6	723	968
	7/09/2020	<1.2	<1.2	<1.2	<1.2	<3	<1.2	<3	<1.2	<3	<1.2	<3	64	28.8	<1.2	<1.2	<1.2	14.9	25.2	144	474	33.2	56.5	<3	<1.2	<1.2	<1.2	427	30.1	901	1300
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	8.6	5.2	<1	<1	<1	2.2	3.3	19.4	56	5.6	8.6	<2.5	<1	<1	<1	83.1	2.9	139	195
	15/08/2017	0.12	13.4	0.14	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	38.3	15.8	<0.05	0.08	<0.05	14	37.6	109	309	24.1	50.9	<0.12	<0.05	<0.05	0.29	778	44.7	1,090	1,440
	15/08/2017	0.24	21.8	0.46	<0.05	<0.12	<0.05	<0.12	0.62	<0.12	<0.05	<0.12	40.8	16.6	<0.05	0.19	<0.05	19.6	28.8	129	298	23.1	39.4	<0.12	<0.05	<0.05	0.3	564	32.4	862	1,220
	16/04/2018	0.16	39.2	0.76	<0.10	<0.25	<0.10	<0.25	0.78	<0.25	<0.10	<0.25	67.1	27.4	<0.10	0.53	<0.10	32.4	58.7	212	557	36.5	87.1	<0.25	<0.10	<0.10	0.38	1,660	53	2,220	2,830
	19/12/2018	0.17	16.9	0.676	<0.020	<0.050	<0.0200	<0.050	0.416	<0.050	<0.0200	<0.050	52.1	2.73	0.048	0.314	<0.0200	24.1	39.3	165	380	31.3	5.85	<0.0500	<0.0200	<0.0200	0.338	836	46.3	1,220	1,600
30/04/2019	<0.50	27.2	0.85	<0.50	<1.25	<0.50	<1.25	0.75	<1.25	<0.50	<1.25	49	<2.5	<0.50	<0.50	<0.50	24.1	37.7	148	343	7.7	47	<1.25	<0.50	<0.50	<0.50	1,050	46.8	1,390	1,780	
16/10/2019	0.12	20.7	0.52	<0.10	<0.25	<0.10	<0.25	0.55	<0.25	<0.10	<0.25	45.4	21.8	<0.10	<0.10	<0.10	22.5	30.3	150	333	27.3	45	<0.25	<0.10	<0.10	0.3	753	38.9	1,090	1,490	
27/04/2020	<5.00	22	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	45.5	<25.0	<5.00	<5.00	<5.00	17.5	31	114	302	25	48.5	<12.5	<5.00	<5.00	<5.00	802	42	1,100	1,450	
7/09/2020	<5	12	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	39.5	<25	<5	<5	<5	17	24	112	225	23	35	<12.5	<5	<5	<5	498	28.5	723	1010	
29/04/2021	<10	27	<10	<10	<25	<10	<25	<10	<25	<10	<25	53	<50	<10	<10	<10	29	64	161	407	36	47	<25	<10	<10	<10	1520	57	1930	2400	
MW246	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	0.3	1.12	3.13	8.69	<0.05	0.99	<0.12	<0.05	<0.05	<0.05	23.7	0.64	32.4	39.3
	17/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	0.75	<0.25	<0.10	<0.25	3.93	1.3	<0.10	0.49	<0.10	1.5	5.18	20.3	53.8	2.82	5.43	<0.25	<0.10	<0.10	<0.10	198	3.5	252	297
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.32	<0.050	<0.0200	<0.050	8.37	0.564	0.026	0.088	<0.0200	2.16	2.68	33.7	60	5.5	7.16	<0.0500	<0.0200	<0.0200	0.06	54.7	3.11	115	178
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	0.24	0.27	4.52	5.87	0.51	0.93	<0.12	<0.05	<0.05	<0.05	7.69	0.34	13.6	21.2
	15/10/2019	<0.10	0.34	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.24	<0.5	<0.10	<0.10	<0.10	0.12	0.67	1.96	0.27	0.19	<0.25	<0.10	<0.10	<0.10	3.07	<0.10	5.03	6.86	
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.1	<0.02	<0.02	<0.02	0.02	0.04	0.46	0.64	0.07	0.11	<0.05	<0.02	<0.02	<0.02	1.03	0.04	1.67	2.49
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.04	0.06	0.6	1.04	0.1	0.11	<0.05	<0.02	<0.02	<0.02	2.02	0.07	3.06	4.18
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.16	0.23	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.02	0.57	0.84	
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.69	<0.2																	

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTbDA	PFTtDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS																															
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L																																
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Location ID	Sample Date																																																												
MW043	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.4	1.1	<0.05	<0.05	<0.05	3.69	6.51	36.1	210	5.35	13.9	<0.12	<0.05	<0.05	0.16	62.6	13.6	273	359																														
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	4.74	1.8	<0.05	<0.05	<0.05	3.38	8.08	30.7	184	4.02	8.7	<0.12	<0.05	<0.05	0.19	132	11	316	389																														
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.072	<0.050	<0.0200	<0.050	6.22	0.56	0.02	<0.0200	<0.0200	3.23	8.48	33.9	146	4.02	14	<0.0500	<0.0200	<0.0200	0.126	66.9	9.23	213	293																														
	1/05/2019	<0.05	0.29	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	18.4	3.6	<0.05	<0.05	<0.05	4.46	9.02	39.8	127	7.56	26.7	<0.12	<0.05	<0.05	<0.05	<0.05	80.2	9.04	207	326																													
	15/10/2019	<0.05	<0.05	<0.10	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	2.28	0.3	<0.02	<0.02	<0.02	1.88	6.58	15.4	104	2.43	3.4	<0.05	<0.02	<0.02	0.22	134	7.88	238	278																														
	28/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.44	<2.5	<0.50	<0.50	<0.50	1.5	3.24	15.6	72.9	2.44	5.59	<1.25	<0.50	<0.50	<0.50	76.9	4.64	150	187																														
	10/09/2020	<0.07	0.29	<0.07	<0.07	<0.18	<0.07	<0.18	0.07	<0.18	<0.07	<0.18	4.27	1.8	<0.07	<0.07	<0.07	1.88	3.1	18.3	85.7	3.12	5.59	<0.18	<0.07	<0.07	<0.07	57.2	6.3	143	188																														
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.4	<5	<1	<1	<1	1.9	4.3	11.2	80.7	2	3.1	<2.5	<1	<1	<1	168	5.6	249	279																														
	29/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.5	1.2	<0.05	<0.05	<0.05	0.54	0.57	6.91	16.3	0.67	3.81	<0.12	<0.05	<0.05	<0.05	10.5	0.64	26.8	46.6																														
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.65	0.4	<0.02	<0.02	<0.02	0.5	0.65	6.61	16.2	1.23	3.5	<0.05	<0.02	<0.02	<0.02	8.44	0.87	24.6	42																														
19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.35	0.7	<0.02	<0.02	<0.02	0.6	1.95	3.99	25.6	0.89	2.74	<0.05	<0.02	<0.02	0.05	45.9	1.28	71.5	86																															
17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	4.11	0.192	<0.0200	<0.0200	<0.0200	0.652	0.902	6.28	18.1	1.21	2.95	<0.0500	<0.0200	<0.0200	0.034	17.6	0.97	35.7	53																															
1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.94	0.2	<0.02	<0.02	<0.02	0.24	0.58	1.79	8.51	0.45	1.12	<0.05	<0.02	<0.02	<0.02	14.3	0.5	22.8	28.6																															
16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.38	0.7	<0.02	<0.02	<0.02	0.65	1.17	4.57	22.5	1.02	1.77	<0.05	<0.02	<0.02	0.04	24	1.22	46.5	60																															
30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	0.8	<0.05	<0.05	<0.05	0.48	0.95	4.28	17.8	1	2.19	<0.12	<0.05	<0.05	<0.05	19.8	0.78	37.6	50.1																															
10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	1.64	0.5	<0.07	<0.07	<0.07	0.45	1.19	2.84	17.4	0.67	1.66	<0.19	<0.07	<0.07	<0.07	25.2	1.2	42.6	52.8																															
28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1																															
29/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12																														
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.26	<0.2	<0.05	<0.05	<0.05	0.62	2.8	7.29	35.9	1.16	2.86	<0.12	<0.05	<0.05	<0.05	30.3	1.41	66.2	84.6																															
18/12/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	2	<0.020	<0.010	<0.010	<0.010	0.594	1.59	8.27	37	1.1	2.59	<0.025	<0.010	<0.010	0.013	21.5	0.778	63.9	80.8																															
28/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	0.32	<1.2	<0.25	<0.25	<0.25	<0.25	<0.25	1.48	7.12	<0.25	0.32	<0.62	<0.25	<0.25	<0.25	22.3	<0.25	29.4	31.5																															
10/09/2020	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.4	<0.2	<0.05	<0.05	<0.05	0.11	0.18	1.91	7.13	0.26	0.38	<0.12	<0.05	<0.05	<0.05	11.6	0.17	18.7	22.2																															
29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884																															
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05																															
19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0362	<0.002	<0.0005	<0.0005	<0.0005	0.0095	0.0088	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684																															
17/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0445	<0.002	<0.0005	<0.0005	<0.0005	0.0039	0.0061	0.0478	0.461	0.0065	0.0302	<0.0005	<0.0005	<0.0005	<0.0005	0.067	0.0038	0.528	0.671																															
1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	0.38	0.38																															
16/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0015	<0.002	<0.0005	<0.0005	<0.0005	0.0012	0.002	0.022	0.0006	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0007	0.0486	0.0565																																
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.08	<0.01	0.15	0.15																															
10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03																															
21/04/2021	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.12	<0.01	0.2	0.27																															
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.76	0.6	<0.02	<0.02	<0.02	0.37	3.11	3.99	22.6	0.96	3	<0.05	<0.02	<0.02	<0.02	79.3	1.71	102	120																															
19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.6	0.4	<0.02	<0.02	<0.02	0.41	1.88	4.05	21.8	0.64	2.27	<0.05	<0.02	<0.02	0.04	107	1.38	129	142																															
19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.																																																						

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
Location ID	Sample Date																															
MW063	17/08/2017	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.17	0.4	<0.02	<0.02	<0.02	0.43	0.75	3.44	13.3	0.75	1.98	<0.05	<0.02	<0.02	<0.02	<0.02	17.1	1	30.4	40.6
	17/04/2018	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.74	0.8	<0.02	<0.02	<0.02	0.71	1.22	5.41	15.3	1.11	2.4	<0.05	<0.02	<0.02	<0.02	<0.02	28.3	1.2	43.6	58.5
	17/12/2018	<0.020	0.146	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.5	0.126	<0.0200	<0.0200	<0.0200	0.488	0.67	4.37	12.5	0.83	1.51	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	15.1	0.806	27.6	38
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.07	0.12	0.56	1.51	0.11	0.23	<0.05	<0.02	<0.02	<0.02	<0.02	3.46	0.12	4.97	6.38
	16/10/2019	<0.05	0.15	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.28	0.2	<0.02	<0.02	<0.02	0.45	0.76	3.5	9.49	0.72	1.19	<0.05	<0.02	<0.02	<0.02	<0.02	14.2	0.82	23.7	32.8
	29/04/2020	<0.05	0.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.55	0.4	<0.02	<0.02	<0.02	0.43	0.99	4.05	10.8	0.74	1.65	<0.05	<0.02	<0.02	<0.02	<0.02	19.3	0.85	30.1	41.1
	10/09/2020	<0.05	0.12	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	1.21	0.5	<0.04	<0.04	<0.04	0.43	0.77	3.18	11.2	0.73	1.41	<0.09	<0.04	<0.04	<0.04	<0.04	19.3	0.85	30.5	39.7
	30/04/2021	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.16	0.6	<0.05	<0.05	<0.05	0.48	0.71	3.4	10.5	0.74	1.39	<0.12	<0.05	<0.05	<0.05	<0.05	15.9	0.8	26.4	35.8
MW112 (Not sampled in 2020 as well was damaged but has now been repaired)	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	<0.05	0.58	0.08	4.22	9.28
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	<0.10	2.14	0.58	38.3	79
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	0.028	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	0.054	54.1	5.45	168	257	
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<0.75	<0.75	<0.75	<0.75	128	6.4	241	305	
MW120	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.17	1.3	<0.02	<0.02	<0.02	1.07	1.52	8.97	29.4	1.62	4.72	<0.05	<0.02	<0.02	<0.02	23.3	1.91	52.7	78	
	18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0225	<0.002	<0.0005	0.0011	<0.0005	0.0021	0.0086	0.0168	0.11	0.0032	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	0.224	0.007	0.334	0.411	
	2/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0018	<0.001	<0.0005	<0.001	1.54	0.103	<0.0005	0.0032	<0.0005	0.422	1.09	3.19	11.3	0.607	1.65	<0.0005	<0.0005	<0.0005	0.0056	15.6	1	26.9	36.5	
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.89	0.6	<0.02	<0.02	<0.02	0.49	0.65	4.28	13.2	0.85	1.73	<0.05	<0.02	<0.02	<0.02	<0.02	10.6	0.99	23.8	35.3
	28/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	2.07	0.7	<0.02	<0.02	<0.02	0.58	1.79	4.23	17.2	0.86	2.02	<0.05	<0.02	<0.02	<0.02	<0.02	40.2	1.64	57.4	71.4
	11/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.52	0.8	<0.03	<0.03	<0.03	0.69	0.92	5.36	16.4	1.1	2.4	<0.08	<0.03	<0.03	<0.03	14.2	1.42	30.6	45.8	
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.67	0.7	<0.1	<0.1	<0.1	0.53	0.82	3.8	13.8	0.78	1.89	<0.25	<0.1	<0.1	<0.1	22.6	1.13	36.4	47.7	
MW121 (Not sampled in 2020 as well was covered by construction haul road)	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.87	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	2.13	0.04	0.64	<0.05	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	2.25	4.03
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	2.39	<0.10	0.79	<0.25	<0.10	<0.10	<0.10	0.32	<0.10	2.71	5.21	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	1.59	<0.05	0.49	<0.12	<0.05	<0.05	<0.05	<0.05	0.15	<0.05	1.74	3.21
MW122	18/10/2019	<0.15	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.23	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.39	3.12	<0.10	0.84	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	3.24	5.7	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.13	0.17
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.1
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.0075	0.0271	0.0029	0.0048	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0009	0.0326	0.0657	
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0611	<0.002	<0.0005	<0.0005	<0.0005	0.003	0.0063	0.0244	0.152	0.0054	0.0191	<0.0005	<0.0005	<0.0005	<0.0005	0.0664	0.0046	0.218	0.342	
	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.31	<0.02	0.0									

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
Location ID	Sample Date																																
MW223	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.95	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.22	0.67	4.94	0.23	0.64	<0.05	<0.02	<0.02	<0.02	<0.02	6.64	0.23	11.6	14.6
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	<0.02	0.18	0.17	1.14	4.61	0.27	0.65	<0.05	<0.02	<0.02	<0.02	<0.02	9.89	0.37	14.5	18.3
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.44	<0.020	<0.0200	<0.0200	<0.0200	0.108	0.138	0.612	2.97	0.128	0.328	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	6.73	0.252	9.7	11.7	
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.54	0.2	<0.02	<0.02	<0.02	<0.02	0.15	0.25	0.99	3.79	0.23	0.49	<0.05	<0.02	<0.02	<0.02	<0.02	16	0.33	19.8	23
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.45	0.2	<0.02	0.03	<0.02	0.13	0.17	0.92	3.08	0.22	0.56	<0.05	<0.02	<0.02	<0.02	<0.02	6.75	0.21	9.83	12.7	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	0.42	0.2	<0.04	<0.08	<0.04	0.15	0.14	1.23	3.45	0.25	0.49	<0.1	<0.04	<0.04	<0.04	<0.04	10.8	0.32	14.2	17.4	
30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.54	0.3	<0.05	<0.05	<0.05	0.22	0.16	1.28	3.38	0.36	0.52	<0.12	<0.05	<0.05	<0.05	<0.05	5.35	0.24	8.73	12.4		
MW224	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.06	0.43	0.09	0.07	<0.05	<0.02	<0.02	0.03	0.36	0.02	0.79	1.33		
	18/04/2018	<0.05	0.13	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.18	<0.2	<0.05	<0.05	<0.05	<0.05	0.12	0.83	0.08	0.06	<0.12	<0.05	<0.05	0.1	1.2	<0.05	2.03	2.7			
	17/12/2018	<0.002	0.143	0.005	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.11	<0.002	<0.0020	<0.0020	<0.0020	0.0762	0.0142	0.191	0.396	0.239	0.0638	<0.0050	<0.0020	<0.0020	0.101	0.329	0.0356	0.725	1.7		
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.6	<0.02	0.1	<0.05	<0.02	<0.02	0.03	0.92	0.02	1.52	1.89		
	14/10/2019	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.33	0.12	0.04	<0.05	<0.02	<0.02	0.14	0.5	0.04	0.83	1.52		
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	0.2	<0.02	<0.02	<0.02	0.06	0.2	0.34	2	0.15	0.35	<0.05	<0.02	<0.02	0.04	3.76	0.09	5.76	7.59		
23/09/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.06	<0.02	0.12	0.29	0.13	0.05	<0.05	<0.02	<0.02	0.08	0.34	0.04	0.63	1.27			
30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.08	0.19	1.49	0.13	0.28	<0.05	<0.02	<0.02	0.05	1.66	0.05	3.15	4.52			
MW226	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0576	0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0026	0.071	0.0023	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.0201	0.0013	0.0911	0.163		
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0533	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0271	<0.0005	0.004	<0.0005	<0.0005	<0.0005	0.016	0.0012	0.0431	0.165			
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0219	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0304	<0.0005	0.0049	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	<0.0005	0.0521	0.0804		
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0067	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0155	0.0248			
	25/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.35		
23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03		
MW227	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.08	0.11		
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0622	0.003	<0.0005	<0.0005	<0.0005	0.0008	0.0008	0.0039	0.16	0.0024	0.0185	<0.0005	<0.0005	<0.0005	<0.0005	0.0239	0.0016	0.184	0.277		
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0156	<0.002	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	0.0026	0.0346	<0.0005	0.003	<0.0005	<0.0005	<0.0005	<0.0005	0.0034	0.0006	0.038	0.0611		
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0575	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.006	0.127	0.0025	0.0301	<0.0005	<0.0005	<0.0005	<0.0005	0.0172	0.0009	0.144	0.247		
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	0.002	0.002		
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02																									

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
Location ID	Sample Date																															
MW241	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.3	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	2.62	<0.05	0.32	<0.12	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	2.74	3.48
	17/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.437	0.016	<0.0005	<0.0005	<0.0005	0.0085	0.0671	0.165	2.19	0.0448	0.318	<0.0005	<0.0005	<0.0005	<0.0005	0.176	0.0111	2.37	3.43	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.18	2.62	0.04	0.33	<0.05	<0.02	<0.02	<0.02	0.37	<0.01	2.99	4.16	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.14	2.39	0.04	0.35	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.61	3.79
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.2	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.45	0.02	2.79	3.92	
MW242	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.15	<0.2	<0.05	<0.05	<0.05	<0.05	0.24	0.68	<0.05	0.12	<0.12	<0.05	<0.05	<0.05	<0.05	1.06	0.05	1.74	2.3	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.21	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.02	0.43	0.52		
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.21	0.016	<0.0020	<0.0020	<0.0020	0.0092	0.0456	0.172	1.89	0.0372	0.092	<0.0050	<0.0020	<0.0020	<0.0020	0.489	0.0224	2.38	2.98	
	1/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0263	0.003	<0.0005	<0.0005	<0.0005	0.0037	0.0142	0.0292	0.178	0.0071	0.0226	<0.0005	<0.0005	<0.0005	<0.0005	0.238	0.0088	0.416	0.531	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.06	0.51	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.56	0.02	1.07	1.34	
MW243	29/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.5	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.26	0.01	0.76	1.04		
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.4		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.2	0.01	0.45	0.59		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	19.5	0.8	<0.05	<0.05	<0.05	0.98	1.24	9.38	55.7	2.68	10.9	<0.12	<0.05	<0.05	<0.05	1.77	0.98	57.5	104	
	17/04/2018	<0.10	3.15	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	162	29.3	<0.10	<0.10	<0.10	37	76.9	302	1,010	53.1	164	<0.25	<0.10	<0.10	<0.10	366	49.2	1,380	2,250	
MW244	17/12/2018	<0.020	0.132	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	6.4	0.354	<0.0200	<0.0200	<0.0200	1.13	1.84	11.4	29.5	2.02	4.27	<0.0500	<0.0200	<0.0200	<0.0200	12	1.97	41.5	71	
	17/10/2019	<0.10	1.83	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	106	21.1	<0.10	<0.10	<0.10	26.4	35.6	232	747	41.4	106	<0.25	<0.10	<0.10	0.21	314	44.7	1,060	1,680	
	29/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	9.52	2.4	<0.25	<0.25	<0.25	2.42	3.22	23.3	59.6	5.1	8.98	<0.62	<0.25	<0.25	<0.25	92.4	3.8	152	211	
	9/09/2020	<0.48	<0.48	<0.48	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	29	8	<0.48	<0.48	<0.48	5.5	7.82	60.5	155	14.5	25	<1.21	<0.48	<0.48	<0.48	191	10.6	346	507	
	30/04/2021	<0.24	<0.24	<0.24	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	3.4	<1.2	<0.24	<0.24	<0.24	0.76	0.92	7.51	14.3	1.72	2.55	<0.59	<0.24	<0.24	<0.24	32	1.28	46.3	64.4	
MW245	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.6	<0.2	<0.05	<0.05	<0.05	1.17	0.9	13.1	37.6	1.56	7.56	<0.12	<0.05	<0.05	<0.05	1.96	1.1	39.6	70.6	
	24/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	33.3	1.7	<0.02	<0.02	<0.02	5.12	5.88	61.9	191	6.84	36.2	<0.05	<0.02	<0.02	<0.02	27.3	7.32	218	377	
	19/04/2018	-	-	-	-	-	-	-	-	-	-	-	4.73	<0.5	-	-	-	0.63	0.8	9.69	25.9	1.27	4.61	-	-	-	-	16.2	0.84	42.1	61.2	
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	19	0.368	<0.0200	<0.0200	<0.0200	3.43	7.83	38.7	112	3.42	19.7	<0.0500	<0.0200	<0.0200	0.026	60.2	5.08	172	270	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	55	<0.2	<0.05	<0.05	<0.05	3.62	3.54	49.4	123	<0.05	27	<0.12	<0.05	<0.05	<0.05	19.4	12	142	293	
MW255	18/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	21	1.5	<0.10	<0.10	<0.10	3.09	2.25	38.5	112	4.56	21.7	<0.25	<0.10	<0.10	<0.10	9.03	3.5	121	217	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.07	0.7	<0.02	<0.02	<0.02	1.18	1.14	10.6	38.7	1.78	8.46	<0.05	<0.02	<0.02	<0.02	7.18	1.35	45.9	79.2	
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.7	0.6	<0.05	<0.05	<0.05	0.8	0.73	9.79	22.9	1.24	3.62	<0.12	<0.05	<0.05	<0.05	5.55	1.02	28.4	52	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7	0.3	<0.02	<0.02	<0.02	0.33	1.48	3.73	20	1.09	4.39	<0.05	<0.02	<0.02	<0.02	4.7	0.55	24.7	43.6	
	24/01/2018	-	2.02	-	-	-	-	-	-	-	-	-	31.2	24.6	-	-	-	20.5	20.5	-	357	18.6	44.6	-	-	-	-	59.1	32.6	416	686	
MW265	17/04/2018	<0.05	<0.10	<0.10	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	18.5	8.3	<0.02	<0.02	<0.02	13.2	9.32	54.4	259	8.59	30.4	<0.05	<0.02	<0.02	0.11	59.6	21	319	486	
	17/12/2018	<0.020	0.77	0.14	<0.020	<0.050	<0.0200	<0.050	0.078	<0.050	<0.0200	<0.050	11.6	1.18	0.022	<0.0200	<0.0200	6.89	6.07	26.3	114	6.33	12.8	<0.0500	<0.0200	<0.0200	0.12	30.9	11.3	145	228	
	1/05/2019	<0.05	0.44	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	16.2	6.4	<0.02	<0.02	<0.02	8.42	7.09	46.5	123	8.73	27.7	<0.05	<0.02	<0.02	0.07	37.1	12.9	160	294	
	15/10/2019	<0.05	1.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	56.9	17.2	<0.02	<0.02	<0.02	24.8	10.7	151	352	31	57	<0.05	<0.02	<0.02	0.09	33.8	24.9	386	760	
	27/04/2																															

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
Location ID	Sample Date																														
MW212	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0137	<0.002	0.0042	<0.0005	<0.0005	0.0045	<0.0005	0.0119	0.0103	0.004	0.0006	<0.0005	<0.0005	0.0006	0.0019	0.0217	0.0073	0.032	0.0807
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW213	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0038	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.0085	0.0008	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	0.0107	0.0179	
	6/12/2018	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0118	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0032	0.0148	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	<0.0005	0.0169	0.0391	
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0119	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0049	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0109	0.0007	0.0158	0.0291	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0086	<0.002	<0.0005	<0.0005	<0.0005	0.001	<0.0005	0.0035	0.0096	0.0008	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	0.0074	0.0013	0.0182	0.0357
MW214	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.02	0.07	0.07	
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.18	0.18	
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0225	<0.002	<0.0005	<0.0005	<0.0005	0.0021	0.0022	0.0077	0.0287	0.0031	0.0033	<0.0005	<0.0005	<0.0005	<0.0005	0.0734	0.0058	0.102	0.149
MW215	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0052	<0.002	<0.0005	<0.0005	0.0016	<0.0005	0.0054	0.0116	0.0064	0.0016	<0.0005	<0.0005	<0.0005	0.0006	0.0306	0.0024	0.0422	0.0654	
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	0.0006	<0.0005	0.0019	0.0094	<0.0005	0.003	<0.0005	<0.0005	<0.0005	0.0007	0.0067	0.0012	0.0161	0.0281	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0026	<0.002	<0.0005	<0.0005	0.0027	0.0005	0.0174	0.0088	0.006	0.0013	<0.0005	<0.0005	<0.0005	0.0007	0.0195	0.0049	0.0283	0.0644	
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
MW216	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	0.01	0.22	0.26	
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02	
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0677	<0.002	<0.0005	<0.0005	0.0016	<0.0005	0.0054	0.0116	0.0064	0.0016	<0.0005	<0.0005	<0.0005	0.0006	0.0306	0.0024	0.0422	0.0654	
	13/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0074	<0.002	<0.0005	<0.0005	0.0007	<0.0005	0.0005	0.0076	<0.0005	0.0024	<0.0005	<0.0005	<0.0005	0.0009	0.0007	0.0085	0.0197	0.0197	
	7/05/2019	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0923	<0.002	<0.0005	<0.0005	0.0006	<0.0005	0.0037	<0.0005	0.0164	<0.0005	<0.0005	<0.0005	<0.0005	0.0135	0.0036	0.0442	0.158	0.158	
MW217	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0159	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0117	<0.0005	0.0047	<0.0005	<0.0005	<0.0005	0.0025	<0.0005	0.0142	0.0348	0.0348	0.0348	
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.03	<0.01	0.02	0.12	
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.19	
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.08	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.27	0.02	0.35	0.47
MW218	4/09/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	0.22	0.02	0.27	0.33	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1																	

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS						
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01						
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																				
Location ID	Sample Date																																			
MW254 <small>(Not sampled in 2020 as well was damaged but has now been repaired)</small>	6/05/2019	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0073	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	0.0326	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0296	<0.0005	0.0622	0.0764	
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0061	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0038	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0058	0.0119
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.09
MW254	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0005	0.0062	0.0095	
	8/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0052	<0.002	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	0.0051	0.0045	0.0192	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
MW256	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0178	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0014	0.0016	0.0144	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	0.0806	0.0118	0.095	0.13	
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0158	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	0.0014	0.0014	0.0186	<0.0005	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	0.0762	0.0102	0.0948	0.127	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.01	0.1	0.11
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	0.03	0.15	0.18
MW257	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.02	0.1	0.16		
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0267	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	0.0019	0.0015	0.0292	0.0023	0.0022	<0.0005	<0.0005	<0.0005	0.0007	0.0622	0.0034	0.0914	0.132	
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0254	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0057	0.0012	0.0051	0.0208	0.0009	0.0025	<0.0005	<0.0005	<0.0005	<0.0005	0.003	0.033	0.0094	0.0538	0.107
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.04
MW258	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.06	
	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.52	0.04	0.64	0.72		
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.26	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.23	0.02	0.49	0.55		
	7/05/2019	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0305	<0.002	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0021	0.003	0.0307	<0.0005	0.007	<0.0005	<0.0005	<0.0005	<0.0005	0.0713	0.0105	0.102	0.164	
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.16	0.16	
MW259	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	<0.01	0.13	0.15		
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.25	0.28		
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0397	<0.002	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0024	0.0024	0.0122	0.0532	0.003	0.0074	<0.0005	<0.0005	<0.0005	0.0036	0.115	0.0086	0.168	0.249	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.12	0.16		
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.11	0.14		
MW260	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.01	0.13	0.16		
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02																					

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
Location ID	Sample Date																															
MW267	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.2	0.07	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.37	0.04	0.57	0.91
	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.02	0.08	0.37	0.05	0.08	<0.05	<0.02	<0.02	<0.02	0.32	0.03	0.69	1.06	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.09	0.58	0.06	0.07	<0.05	<0.02	<0.02	<0.02	0.32	0.02	0.9	1.27	
	4/12/2018	<0.001	0.023	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0892	<0.002	<0.0005	<0.0005	<0.0005	0.0274	0.0204	0.0805	0.264	0.0569	0.0737	<0.0005	<0.0005	<0.0005	0.003	0.259	0.026	0.523	0.923	
	7/05/2019	<0.001	0.032	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0714	<0.002	<0.0005	<0.0005	<0.0005	0.0147	0.0071	0.0504	0.146	0.0013	0.0535	<0.0005	<0.0005	<0.0005	0.001	0.13	0.018	0.276	0.525	
	21/04/2020	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.14	0.25	<0.09	0.06	<0.05	<0.02	<0.02	<0.02	0.28	0.02	0.53	0.91	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.16	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.1	0.37	0.06	0.08	<0.05	<0.02	<0.02	<0.03	0.36	0.03	0.73	1.05	
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.31	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.23	0.03	0.54	0.84	
MW268	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0023	0.0011	0.0034	
	7/05/2019	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0102	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0038	0.0024	0.005	0.0186		
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02	
MW269	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0128	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0061	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0346	0.0027	0.0407	0.0562		
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0083	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0072	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0178	0.0013	0.025	0.0346		
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03	
MW270	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.02	<0.01	0.02		
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0024	<0.002	0.0007	<0.0005	<0.0005	0.0007	<0.0005	0.0005	0.0019	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	0.0013	0.0056	0.0032	0.0138		
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.003	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.0014	0.004	0.0117		
	7/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.0042	-	-	-	-	-	0.005	-	0.003	0.003	-	<0.002	-	-	-	0.0023	0.002	0.0053	0.017	
	21/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.07		
22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW301	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.07	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.17	0.32		
MW467	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.12	0.12		
	20/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.1	0.1		
	6/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.08	0.08		
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.07	0.07		
	20/04/2020	<0.05	0.19	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.07	0.26		
	24/09/2020	<0.05	0.33	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	<0.01	0.3	0.63		
27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	&																					

Table T9: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																															
NHMRC - Recreational Use - Surface Water																												0.13	220		
Location ID		Sample Date																													
On-Base - Mundy Creek Catchment																															
SW001	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.11	1	<0.02	<0.02	<0.02	1	2.65	7.26	22.8	1.98	4.69	<0.05	<0.02	<0.02	0.22	59.9	2.96	82.7	108
	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.99	0.9	<0.02	<0.02	<0.02	1.03	1.24	6.17	19.1	1.32	3.68	<0.05	<0.02	<0.02	0.13	48.1	1.78	67.2	86.4
	19/04/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7.02	2.1	<0.02	0.04	<0.02	2.48	2.11	14.3	34.8	2.81	6.44	<0.05	<0.02	<0.02	0.21	50.6	4.66	85.4	128
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.22	0.312	<0.0200	<0.0200	<0.0200	0.584	0.6	3.35	8.83	0.644	1.27	<0.0500	<0.0200	<0.0200	0.078	14.6	1.37	23.4	32.8
	2/05/2019	<0.001	0.011	0.003	<0.001	<0.001	<0.0005	<0.001	0.0065	<0.001	<0.0005	<0.001	1.17	0.13	0.0018	0.044	<0.0005	0.466	0.594	2.54	5.31	0.507	1.63	<0.0005	<0.0005	<0.0005	0.0406	11.5	1.03	16.8	25
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.3	<0.02	<0.02	<0.02	0.25	0.2	1.6	3.65	0.36	0.53	<0.05	<0.02	<0.02	0.03	5.89	0.44	9.54	13.8
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.14	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.47	0.02	0.61	0.76
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.58	1.79	0.2	0.26	<0.05	<0.02	<0.02	<0.02	3.22	0.2	5.01	6.93
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.3	<0.02	<0.02	<0.02	0.08	0.08	0.5	1.39	0.18	0.19	<0.05	<0.02	<0.02	<0.02	2.53	0.15	3.92	5.63
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.45	3.85	0.27	0.62	<0.05	<0.02	<0.02	<0.02	7.33	0.31	11.2	15.1
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.29	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.74	2.15	0.11	0.31	<0.09	<0.04	<0.04	<0.04	4.66	0.19	6.81	8.7
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37	3.42
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153	1.68
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0050	<0.0020	0.0084	0.174	0.0738	0.891	1.7
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.151	1.73	2.74
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5
22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54	
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	11.7	1.18	27.7	45.7
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.1	<0.50	<0.10	<0.10	<0.10	<0.10	0.14	0.69	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.79	<0.10	1.48	1.72	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.36	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.01	0.28	0.28	
SW121	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.288	<0.020	<0.0200	<0.0200	<0.0200	0.026	0.054	0.244	1.16	0.07	0.182	<0.0500	<0.0200	<0.0200	<0.0200	1.15	0.062	2.31	3.24
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.29	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.49	0.02	0.78	1.04
SW132	1/03/2018	<0.002	0.193	0.042	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	1.75	0.148	<0.0020	<0.0020	<0.0020	1.13	0.97	6.46	14.4	1.22	2.19	<0.0050	<0.0020	<0.0020	0.0412	27.3	2.88	41.7	58.7
	2/03/2018	<0.002	0.112	0.034	<0.002	<0.005	<0.0020	<0.005	0.013	<0.005	<0.0020	<0.005	2.16	0.196	<0.0020	0.0026	<0.0020	1.32	1.2	6.22	15	1.43	2.62	<0.0050	<0.0020	<0.0020	0.066	27.1	2.63	42.1	60.1
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.364	0.054	<0.0020	<0.0020	<0.0020	0.0602	0.153	0.506	2.14	0.114	0.298	<0.0050	<0.0020	<0.0020	0.0022	4.54	0.145	6.68	8.38
	3/03/2018	<0.010	0.058	0.018	<0.010	<0.025	<0.0100	<0.025	0.018	<0.025	<0.0100	<0.025	1.4	0.899	<0.0100	<0.0100	<0.0100	1.08	0.918	6.62	11.9	1.07	1.46	<0.0250	<0.0100	<0.0100	0.049	28.6	2.69	40.5	56.8
	3/03/2018	<0.010	0.092	0.016	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	1.63	1.04	<0.0100	<0.0100	<0.0100	1.3	1.05	8.01	14.7	1.25	1.55	<0.0250	<0.0100	<0.0100	0.063	35.6	3.04	50.3	69.3
	4/03/2018	<0.020	0.092	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	3.46	0.39	<0.0200	0.0557	<0.0200	1.73	1.38	9.05	18.8	1.83	2.66	<0.0500	<0.0200	<0.0200	0.062	27.6	3.72	46.4	70.8
	4/03/2018	<0.020	0.094	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	3.44	0.294	<0.0200	0.0557	<0.0200	1.77	1.2	8.91	19.8	1.62	2.58	<0.0500	<0.0200	<0.0200	0.058	26.8	3.71	46.6	70.3
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Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01			
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																
NHMRC - Recreational Use - Surface Water																																
Location ID	Sample Date																															
SW016	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0241	<0.0005	0.0105	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0023	<0.0003	0.0427
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.007	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.0282	0.0056	0.0022	<0.0050	<0.0020	<0.0020	<0.0020	0.0324	0.0028	0.0606	0.0842		
	29/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0503	<0.002	<0.0005	<0.0005	<0.0005	0.0613	0.0127	0.0579	0.136	0.009	0.0249	<0.0005	<0.0005	<0.0005	0.0007	0.101	0.0141	0.237	0.468	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.03	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.34	0.4		
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	0.12	<0.01	0.16	0.24		
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.13	0.15		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.49	1.96	0.05	0.22	<0.05	<0.02	<0.02	<0.02	0.48	0.08	2.43	3.64	
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.52	<0.2	<0.05	<0.05	<0.05	0.12	<0.05	1.03	1.4	0.32	0.24	<0.12	<0.05	<0.05	<0.05	1.54	0.1	2.94	5.27	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.51	0.19	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	<0.02	0.61	0.03	0.95	2.43	
	SW019	14/08/2017	<0.05	0.48	2.19	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	5.37	2.7	0.13	0.04	<0.02	1.53	2.56	14.8	33.1	5	5.61	<0.05	<0.02	<0.02	0.74	35.6	4.88	68.7	115
14/08/2017		<0.05	1.09	1.19	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	3.86	2.3	0.1	<0.02	<0.02	1.53	1.03	11	26.8	3.3	4.26	<0.05	<0.02	<0.02	0.51	31.8	3	58.6	91.8	
19/04/2018		<0.05	0.13	0.82	<0.05	<0.05	<0.02	<0.05	0.19	<0.05	<0.02	<0.05	12	3.6	0.08	0.04	<0.02	2.8	5.95	23.9	69	5.3	11	<0.05	<0.02	<0.02	0.31	62	4.4	131	202	
19/12/2018		<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.578	<0.020	0.034	0.007	<0.002	0.224	0.324	1.15	4.07	0.298	0.484	<0.005	<0.002	0.004	0.082	6.26	0.546	11.4	16.3	
19/12/2018		-	0.168	1	-	-	-	-	0.068	-	-	-	0.904	2.21	0.097	0.026	-	4.72	0.336	11.8	5.6	4.9	0.759	-	-	<0.0200	0.456	7.28	2.74	11.9	40.8	
1/05/2019		<0.001	<0.005	0.011	<0.001	<0.001	<0.0005	<0.001	<0.002	<0.001	<0.0005	<0.001	2.31	0.225	0.0093	<0.002	0.0007	0.532	0.783	4.16	12.2	1.1	2.31	<0.0005	<0.0005	0.002	0.0338	10.5	0.787	23.2	38.8	
1/05/2019		-	0.011	0.139	-	-	-	-	0.037	-	-	-	2.48	1.83	0.014	0.011	<0.002	1.15	1.35	9.03	12.7	2.31	2.43	-	-	-	0.088	13.4	0.932	25.6	44.1	
29/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	0.1	<0.02	<0.02	<0.02	0.17	0.26	1.32	0.07	0.11	<0.05	<0.02	<0.02	<0.02	4.72	0.08	6.04	6.94		
30/01/2020		<0.05	<0.05	0.06	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.47	<0.2	<0.05	<0.05	<0.05	0.08	0.24	0.84	3.88	0.19	0.42	<0.12	<0.05	<0.05	<0.05	5.21	0.2	9.09	11.6	
31/01/2020		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.7	0.3	<0.05	<0.05	<0.05	0.12	0.43	1.7	6.09	0.36	0.66	<0.12	<0.05	<0.05	<0.05	8.24	0.31	14.3	18.9	
30/04/2020	<0.05	<0.05	0.4	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.86	0.8	<0.05	<0.05	<0.05	0.52	0.48	2.48	8.23	1.34	0.91	<0.12	<0.05	<0.05	0.07	11.6	0.65	19.8	28.3		
22/04/2021	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.07	2.94	0.28	0.43	<0.05	<0.02	<0.02	<0.02	5.63	0.29	8.57	11.9		
SW112	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	0.04	0.1	0.22	
	19/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0311	<0.002	0.0034	<0.0005	<0.0005	0.0093	0.0063	0.0558	0.136	0.0376	0.0146	<0.0005	<0.0005	<0.0005	0.0014	0.166	0.0384	0.302	0.504	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	0.0061	<0.0005	0.0505	<0.0005	0.036	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0087	<0.0003	0.107	
	20/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0007	<0.001	<0.0005	<0.001	0.0459	<0.002	0.0041	<0.0005	<0.0005	0.0082	0.0093	0.0664	0.111	0.0431	0.0115	<0.0005	<0.0005	<0.0005	0.0018	0.283	0.0297	0.394	0.621	
	3/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0316	<0.002	0.0014	<0.0005	<0.0005	0.0045	0.0044	0.0153	0.0574	0.0193	0.0089	<0.0005	<0.0005	<0.0005	0.0007	0.102	0.0151	0.159	0.263	
	25/10/2019	<0.001	0.019	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0055	0.0018	0.0314	0.0275	0.0361	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0115	0.0754	0.185	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.16	0.17	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.14	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.24	0.34	
	SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.3	0.64	25.3	34.1
1/03/2018		<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	1.57	0.0652	2.44	3.03	
2/03/2018		<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.038	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	8.2	

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01				
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																0.13	220	
NHMRC - Recreational Use - Surface Water																																10	2	
Location ID	Sample Date																																	
SW126	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.31	0.2	<0.02	<0.02	<0.02	0.07	0.13	0.66	1.92	0.16	0.25	<0.05	<0.02	<0.02	<0.02	<0.02	3.77	0.13	5.69	7.6		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.2	<0.02	<0.02	<0.02	0.06	<0.02	0.64	<0.02	0.16	0.05	<0.05	<0.02	<0.02	<0.02	<0.01	0.08	<0.01	1.42			
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.271	<0.002	<0.0020	0.005	<0.0020	0.0388	0.0748	0.465	1.3	0.0996	0.137	<0.0050	<0.0020	<0.0020	<0.0020	1.87	0.0966	3.17	4.36			
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.164	0.026	<0.0005	0.0063	<0.0005	0.0236	0.0783	0.251	0.739	0.0672	0.128	<0.0005	<0.0005	<0.0005	0.0008	1.68	0.0484	2.42	3.21			
SW126	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	0.1	<0.02	<0.02	<0.02	0.04	0.07	0.41	1.16	0.11	0.16	<0.05	<0.02	<0.02	<0.02	2.78	0.09	3.94	5.1			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.17	<0.1	<0.02	<0.02	<0.02	0.06	0.3	1.18	0.08	0.15	<0.06	<0.02	<0.02	<0.02	2.35	0.05	3.53	4.34				
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	0.2	<0.02	<0.02	<0.02	0.04	0.09	0.52	1.31	0.12	0.2	<0.05	<0.02	<0.02	<0.02	3.28	0.1	4.59	6.11			
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.75	0.2	<0.02	<0.02	<0.02	0.09	0.11	1.03	2.18	0.26	0.52	<0.05	<0.02	<0.02	<0.02	2.1	0.13	4.28	7.37			
SW131	2/03/2018	<0.002	0.008	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.172	0.12	<0.0020	<0.0020	<0.0020	0.0454	0.091	0.411	1.72	0.0236	0.172	<0.0050	<0.0020	<0.0020	0.0034	3.8	0.122	5.52	6.69			
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.163	0.041	<0.0020	<0.0020	<0.0020	0.0436	0.085	0.398	1.63	0.0822	0.159	<0.0050	<0.0020	<0.0020	0.003	4.07	0.116	5.7	6.8			
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.106	0.078	<0.0100	<0.0100	<0.0100	0.033	0.092	0.439	1.04	0.075	0.097	<0.0250	<0.0100	<0.0100	<0.0100	3.5	0.111	4.54	5.57			
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.101	0.076	<0.0100	<0.0100	<0.0100	0.039	0.088	0.454	1.05	0.062	0.093	<0.0250	<0.0100	<0.0100	<0.0100	3.16	0.113	4.21	5.24			
	4/03/2018	<0.002	0.019	<0.002	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.208	0.023	<0.0020	0.0098	<0.0020	0.0536	0.139	0.486	1.9	0.113	0.168	<0.0050	<0.0020	<0.0020	<0.0020	4.98	0.142	6.88	8.25			
	4/03/2018	<0.002	0.013	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.196	0.02	<0.0020	0.0078	<0.0020	0.0542	0.131	0.476	2.14	0.11	0.149	<0.0050	<0.0020	<0.0020	<0.0020	5.02	0.133	7.16	8.45			
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.123	0.267	<0.0100	<0.0100	<0.0100	0.053	0.115	0.527	1.2	0.064	0.12	<0.0250	<0.0100	<0.0100	<0.0100	3.89	0.125	5.09	6.48			
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.245	0.095	<0.0100	<0.0100	<0.0100	0.048	0.114	0.475	1.7	0.111	0.213	<0.0250	<0.0100	<0.0100	<0.0100	4.5	0.176	6.2	7.68			
	19/04/2018	<0.001	0.014	<0.001	<0.001	<0.005	<0.001	0.0022	<0.001	<0.0005	<0.001	0.219	0.017	0.001	0.0068	<0.0005	0.0875	0.149	0.714	2.28	0.116	0.234	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	2.71	0.142	4.99	6.7			
	19/04/2018	<0.001	0.009	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.107	0.023	<0.0005	<0.0005	<0.0005	0.0611	0.002	0.752	<0.0005	0.128	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.077	0.001	1.16			
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.064	<0.020	<0.0200	<0.0200	<0.0200	0.032	0.106	0.42	0.03	0.058	<0.0500	<0.0200	<0.0200	<0.0200	1.03	0.03	1.45	1.77				
	29/04/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0013	<0.001	<0.0005	<0.001	0.125	0.045	0.0007	0.0034	<0.0005	0.034	0.0662	0.348	1.07	0.0582	0.125	<0.0005	<0.0005	<0.0005	0.020	1.95	0.0889	3.02	3.92			
	18/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0019	<0.001	<0.0005	<0.001	0.231	0.034	0.0009	0.0112	<0.0005	0.0503	0.0766	0.447	1.56	0.101	0.213	<0.0005	<0.0005	<0.0005	0.0032	2.23	0.0918	3.79	5.05			
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	0.2	<0.02	<0.02	<0.02	0.13	0.33	1.24	4.52	0.34	0.48	<0.05	<0.02	<0.02	<0.02	7.41	0.28	11.9	15.4			
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.38	0.09	0.04	<0.05	<0.02	<0.02	<0.02	0.94	0.02	1.32	1.69			
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.07	0.38	1.24	0.11	0.15	<0.05	<0.02	<0.02	<0.02	2.62	0.07	3.86	4.87			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.1	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.19	1.18	0.03	0.1	<0.06	<0.02	<0.02	<0.02	2.66	0.05	3.84	4.42			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	<0.1	<0.02	<0.02	<0.02	0.06	0.18	0.77	2.58	0.15	0.33	<0.05	<0.02	<0.02	<0.02	4.02	0.16	6.6	8.55			
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.2	<0.02	<0.02	<0.02	0.09	0.12	0.91	2.52	0.18	0.32	<0.05	<0.02	<0.02	<0.02	2.68	0.16	5.2	7.46			
	On-Base - Three Mile Creek Catchment																																	
SW102	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.54	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.92	1.2			
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0226	<0.002	<0.0020	<0.0020	<0.0020	0.0032	0.0078	0.0302	0.204	<0.0020	0.0196	<0.0050	<0.0020	<0.0020	<0.0020	0.325	0.0146	0.529	0.627			
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.023	0.117	<0.0020	<0.0020	<0.0020	0.0034	0.0094	0.035	0.205	<0.0020	0.0224	<0.0050	<0.0020	<0.0020	<0.0020	0.364	0.0138	0.569	0.793			
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.014	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	0.037	0.129	<0.0100	0.013	<0.0250	<0.0100	<0.0100	<0.0100	0.308	<0.0100	0.437	0.501				
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.018	<0.010	<0.0100	<0.0100	<0.0100	<0.0100																

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01		
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																															
NHMRC - Recreational Use - Surface Water																											0.13	220			
Location ID	Sample Date																														
SW113	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.47	<0.1	<0.02	<0.02	<0.02	<0.02	0.92	2.39	0.22	0.37	<0.05	<0.02	<0.02	<0.02	1.4	0.05	3.79	5.82	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.47	<0.1	<0.02	<0.02	<0.02	0.18	0.14	0.96	5.33	0.2	0.45	<0.05	<0.02	<0.02	<0.02	3.08	0.25	8.41	11.1
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.566	0.019	<0.0005	0.0008	<0.0005	0.153	0.128	1.01	3.2	0.195	0.536	<0.0005	<0.0005	<0.0005	0.0034	2.17	0.19	5.37	8.17
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	1.49	0.3	<0.05	<0.05	<0.05	0.25	0.16	2.23	6.14	0.45	1.29	<0.13	<0.05	<0.05	<0.05	2.18	0.37	8.32	14.9
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.47	0.1	<0.02	<0.02	<0.02	0.08	0.13	0.91	2.88	0.17	0.44	<0.05	<0.02	<0.02	<0.02	1.82	0.14	4.7	7.14

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																0.13	220	
NHMRC - Recreational Use - Surface Water																																10	2	
Location ID	Sample Date																																	
SW114	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.09			
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0292	<0.002	0.0009	<0.0005	<0.0005	0.0051	0.0038	0.011	0.0551	0.0084	0.0067	<0.0005	<0.0005	<0.0005	0.0016	0.215	0.0123	0.27	0.349			
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.11			
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.17	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.24	0.02	0.41	0.57		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
SW115	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.04	0.04			
	10/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.125	<0.002	<0.0005	<0.0005	<0.0005	0.0526	0.0501	0.276	0.784	0.0639	0.15	<0.0005	<0.0005	<0.0005	0.0026	1.06	0.0908	1.84	2.66			
	13/12/2018	<0.001	0.005	0.006	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.101	<0.002	0.0016	0.0022	<0.0005	0.0158	0.0169	0.104	0.349	0.0376	0.0448	<0.0005	<0.0005	<0.0005	0.0026	0.531	0.0191	0.88	1.24			
	8/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	0.06	0.04	0.3	0.64	0.06	0.12	<0.05	<0.02	<0.02	<0.02	0.85	0.09	1.49	2.29			
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.0005	0.0006	<0.0005	0.0028	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0026	0.0163	<0.0005	0.0191	0.0218		
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	0.2	<0.02	<0.02	<0.02	0.13	0.14	0.84	2	0.18	0.32	<0.05	<0.02	<0.02	<0.02	3.7	0.25	5.7	8.12			
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.25	0.75	<0.06	0.1	<0.05	<0.02	<0.02	<0.02	1.08	0.08	1.83	2.46			
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
SW116	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03				
	10/04/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0747	<0.002	<0.0005	<0.0005	<0.0005	0.0265	0.0203	0.127	0.383	0.0317	0.0696	<0.0005	<0.0005	<0.0005	0.002	0.489	0.0448	0.872	1.27			
	12/12/2018	<0.001	0.006	0.005	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0634	<0.002	0.0017	0.0022	<0.0005	0.011	0.0128	0.0898	0.242	0.0226	0.038	<0.0005	<0.0005	<0.0005	0.0026	0.374	0.0154	0.616	0.886			
	7/05/2019	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.132	<0.002	<0.0005	<0.0005	<0.0005	0.033	0.0341	0.286	0.591	0.007	0.0836	<0.0005	<0.0005	<0.0005	0.0029	0.754	0.063	1.34	1.99			
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0063	<0.002	<0.0005	<0.0005	<0.0005	0.0013	0.0015	0.0065	0.0225	0.0011	0.0034	<0.0005	<0.0005	<0.0005	<0.0005	0.0497	0.0035	0.0722	0.0958			
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.06	0.05	0.4	0.85	0.08	0.14	<0.05	<0.02	<0.02	<0.02	1.11	0.11	1.96	2.96			
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.06	0.05	0.27	0.09	0.27	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.43	0.03	0.7	0.9		
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.17	0.35	0.05	0.07	<0.05	<0.02	<0.02	<0.02	0.76	0.05	1.11	1.55			
SW117	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	1.98	1	<0.05	<0.05	<0.05	0.75	0.64	3.63	10.8	<0.05	2.04	<0.12	<0.05	<0.05	0.16	14.1	1.07	24.9	36.2				
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.16	1	<0.02	<0.02	<0.02	1.11	0.93	6.17	13.9	1.25	2.96	<0.05	<0.02	<0.02	0.09	18.4	1.88	32.3	50.8			
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.73	0.9	<0.02	<0.02	<0.02	0.7	<0.02	5.57	<0.02	1.21	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.44	<0.01	9.55			
	13/12/2018	<0.002	0.027	0.033	<0.002	<0.005	<0.0020	<0.005	0.003	<0.005	<0.0020	<0.005	0.346	<0.002	0.0052	0.0068	<0.0020	0.111	0.0878	0.52	1.44	0.164	0.198	<0.0050	<0.0020	<0.0020	0.0168	1.81	0.16	3.25	4.93			
	8/05/2019	<0.001	0.014	0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.29	0.252	0.0016	0.0258	<0.0005	1.11	1.05	7.73	16.4	1.37	3.07	<0.0005	<0.0005	<0.0005	0.0599	14.1	2.06	30.5	50.5			
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	0.1	<0.02	<0.02	<0.02	0.06	0.07	0.4	1.16	0.08	0.16	<0.05	<0.02	<0.02	<0.02	2.08	0.11	3.24	4.4			
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	1.04	0.3	<0.05	<0.05	<0.05	0.37	0.28	2.17	4.93	0.42	1	<0.13	<0.05	<0.05	<0.05	6.67	0.7	11.6	17.9			
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.2	<0.02	<0.02	<0.02	0.04	0.08	0.32	0.95	<0.08	0.12	<0.05	<0.02	<0.02	<0.02	2.45	0.1	3.4	4.19			
16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.67	0.3	<0.02	<0.02	<0.02	0.3	0.28	1.66	3.76	0.34	0.7	<0.05	<0.02	<0.02	0.04	8.57	0.77	12.3	17.4				
SW118	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.46	0.3	1.77	4.85	0.4	1.14	<0.05	<0.02	<0.02	0.04	5.21	0.7	10.1	16.1			
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	0.32	0.22	1.37	6.14	0.3	0.52	<0.05	<0.02	<0.02	<0.02	7.04	0.5	13.2	17			
	13/12/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0																									

Table T9: Historical Surface Water PFAS Analytical Results

		4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																															
NHMRC - Recreational Use - Surface Water																												0.13	220	0.01	0.01
Location ID	Sample Date																														
SW021	18/07/2017	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.07	0.19	0.07	0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.3	0.68
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0114	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.0005	0.0026	0.0202	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0279	0.0013	0.0481	0.0751
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<1.32	<0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.09	0.09
	15/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.34	0.08	0.05	<0.05	<0.02	<0.02	<0.02	0.08	0.02	0.42
SW110	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	<0.1	<0.02	<0.02	<0.02	0.06	0.21	0.6	3.53	0.17	0.41	<0.05	<0.02	<0.02	<0.02	2.73	0.12	6.26	8.49
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	<0.1	<0.02	<0.02	<0.02	0.1	0.16	0.96	2.87	0.19	0.32	<0.05	<0.02	<0.02	<0.02	3.45	0.23	6.32	8.65
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.988	<0.002	<0.0005	<0.0005	<0.0005	0.316	0.205	1.92	5.5	0.533	0.794	<0.0005	<0.0005	<0.0005	0.0058	1.67	0.293	7.17	12.2
	6/05/2019	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.318	<0.002	<0.0020	<0.0020	<0.0020	0.0494	0.0686	0.498	2.42	0.0502	0.262	<0.0050	<0.0020	<0.0020	<0.0020	1.46	0.0768	3.88	5.2
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.76	0.3	<0.02	<0.02	<0.02	0.2	0.19	2.32	5.79	0.48	0.74	<0.05	<0.02	<0.02	<0.02	2.99	0.3	8.78	14.1
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	<0.1	<0.02	<0.02	<0.02	0.05	0.08	0.53	1.52	0.11	0.18	<0.05	<0.02	<0.02	<0.02	1.97	0.1	3.49	4.77
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.2	<0.02	<0.02	<0.02	0.11	0.12	1.25	2.81	0.23	0.41	<0.05	<0.02	<0.02	<0.02	1.69	0.17	4.5	7.19
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	0.1	<0.02	<0.02	<0.02	0.04	0.04	0.46	1.12	0.1	0.18	<0.05	<0.02	<0.02	<0.02	1.09	0.06	2.21	3.4
SW111	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.72	<0.1	<0.02	<0.02	<0.02	0.07	0.19	0.7	3.74	0.18	0.47	<0.05	<0.02	<0.02	<0.02	2.32	0.14	6.06	8.53
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.05	0.09	0.43	1.44	0.1	0.14	<0.05	<0.02	<0.02	<0.02	2.73	0.11	4.17	5.28
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.185	<0.002	<0.0005	0.0007	<0.0005	0.0343	0.0528	0.41	1.44	0.0671	0.161	<0.0005	<0.0005	<0.0005	0.0008	0.739	0.051	2.18	3.14
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	0.1	<0.02	<0.02	<0.02	0.05	0.11	0.5	1.71	0.12	0.19	<0.05	<0.02	<0.02	<0.02	2.46	0.1	4.17	5.58
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.2	<0.02	<0.02	<0.02	0.1	0.14	1.32	3.03	0.24	0.4	<0.05	<0.02	<0.02	<0.02	2.08	0.18	5.11	7.89
SW120	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	0.1	<0.02	<0.02	<0.02	0.06	0.09	0.75	1.98	0.16	0.24	<0.05	<0.02	<0.02	<0.02	1.76	0.1	3.74	5.49
	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.03	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.04	0.26	0.38
	20/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.15	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.04	0.25	0.37	
	12/12/2018	<0.001	0.037	0.008	<0.001	<0.001	<0.0005	<0.001	0.005	<0.001	0.0023	<0.001	0.0243	<0.002	0.0027	<0.0005	<0.0005	0.0122	0.0013	0.0099	0.0265	0.0115	0.0016	<0.0005	<0.0005	<0.0005	0.002	0.0705	0.0139	0.097	0.229
	24/10/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	<0.002	0.0057	<0.0005	<0.0005	0.0139	0.0039	0.0354	0.141	0.0225	0.011	<0.0005	<0.0005	0.0008	0.0023	0.191	0.0331	0.332	0.489
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.1	0.01	0.21
SW127	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.21	0.26
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.28	0.41
	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.11	0.11
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0207	0.004	0.0007	<0.0005	<0.0005	0.0029	0.0008	0.0079	0.0315	0.0062	0.0045	<0.0005	<0.0005	<0.0005	0.0009	0.0228	0.0052	0.0543	0.108
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0096	<0.002	<0.0005	<0.0005	<0.0005	0.0038	<0.0005	0.0024	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0052	0.0022	0.0092	0.0272
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0221	<0.002	0.0008	<0.0005	<0.0005	0.0025	0.0025	0.0103	0.0542	<0.0005	0.0113	<0.0005	<0.0005	<0.0005	0.0011	0.0567	0.0057	0.111	0.167
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0577	<0.002	0.0005	<0.0005	<0.0005	0.0096	0.0048	0.0409	0.147	0.0223	0.0213	<0.0005	<0.0005	<0.0005	0.0008	0.0453	0.0159	0.192	0.366
SW129	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
	24/09/2020	<0																													

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																		
NHMRC - Recreational Use - Surface Water																																		
Location ID	Sample Date																																	
SW205	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01		
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01		
	15/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01		
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.1	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.48	0.06	<0.05	<0.12	<0.05	<0.05	<0.05	0.39	<0.05	0.87	1.21	
	5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0102	<0.002	0.0007	<0.0005	<0.0005	0.0022	<0.0005	0.0134	0.026	0.0116	0.0032	<0.0005	<0.0005	<0.0005	0.0006	0.028	0.0054	0.054	0.101	
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0346	0.027	0.0007	<0.0005	<0.0005	0.0074	0.0058	0.0555	0.164	0.0164	0.013	<0.0005	<0.0005	<0.0005	0.0005	0.141	0.014	0.305	0.48	
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.18	0.22	
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.16	
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.3	0.03	0.04	<0.05	<0.02	<0.02	<0.02	0.5	0.02	0.8	1.04	
SW206	15/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	18/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	0.0009	<0.0005	0.0036	0.0078	0.0036	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	0.0074	0.001	0.0152	0.0276		
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0251	0.004	0.0008	<0.0005	<0.0005	0.0062	0.0071	0.0495	0.168	0.0134	0.0142	<0.0005	<0.0005	<0.0005	<0.0005	0.19	0.0112	0.358	0.49	
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.17	0.17		
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.06	0.06		
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.24	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.02	0.58	0.78	
	15/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	18/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0056	<0.002	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0078	0.0198	0.0066	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	0.0167	0.0024	0.0365	0.0627		
9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0191	<0.002	<0.0005	<0.0005	<0.0005	0.0036	0.0044	0.0383	0.0899	0.0109	0.0127	<0.0005	<0.0005	<0.0005	<0.0005	0.0801	0.0079	0.17	0.267		
23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.12	0.12			
8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.08			
15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	<0.01	0.28	0.34		
Off-Base - Three Mile Creek Catchment																																		
SW107	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.15	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	0.29	0.35		
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0822	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613	0.983	
	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0766	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574	0.794	

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
On-Base - Mundy Creek Catchment																																
SD001	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0024	<0.001	<0.0002	0.0008	<0.0002	0.0010	0.0011	0.0055	0.0145	0.0010	0.0021	<0.0005	<0.0002	<0.0002	0.0007	0.0662	0.0033	0.0807	0.0986	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	0.0007	<0.0002	0.0007	0.0006	0.0034	0.0082	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0282	0.0014	0.0364	0.0466	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0035	<0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0174	0.0002	0.0209	0.0234
	23/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.001	<0.001	<0.001	0.0022	0.0032	0.0154	0.0437	0.0032	0.0062	<0.0025	<0.001	<0.001	<0.001	0.0816	0.0064	0.125	0.169
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003	0.0036	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0262	0.0002	0.0298	0.0319
SD010	30/05/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0002	<0.0002	0.0005	0.0004	0.0007	0.0007	0.0144	<0.0002	0.0007	<0.0005	<0.0002	0.0005	0.0002	0.0358	0.0013	0.0502	0.0566	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0007	0.0022	0.0004	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0122	0.0006	0.0144	0.0171	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0199	<0.0002	0.0203	0.0203
	14/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0007	0.0041	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0154	0.0004	0.0195	0.0224	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0015	<0.0002	0.0015	0.0017
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.012	0.0002	0.0129	0.0131
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0035	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0239	0.0003	0.0274	0.0296
SD106	16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0022	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0074	0.0091
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0706	<0.0002	0.0723	0.0729	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0022	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0633	0.0002	0.0655	0.0661	
SD121	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0022	<0.001	0.0008	0.0006	<0.0002	0.0002	0.0008	0.0007	0.0042	<0.0002	0.0003	<0.0005	<0.0002	0.0005	0.0004	0.103	0.0008	0.107	0.114	
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009		
	18/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0019	0.0019	
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0010	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0097	<0.0002	0.0107	0.0107	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0079	<0.0002	0.0083	0.0086	
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0001	0.0002	0.0002	0.0004	0.0012	0.0044	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0539	0.0006	0.0583	0.0636	
SD132	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0020	0.0040	0.0003	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0152	0.0007	0.0192	0.0233	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0005	0.0020	0.0052	0.0003	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0188	0.0009	0.024	0.0302	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0009	0.0039	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0129	0.0004	0.0168	0.0194	
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005																												

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EiFOSA	EiFOSAA	EiFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EiFOSA	EiFOSAA	EiFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0008	0.0054	0.0024	0.0066	0.0454	0.0580	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15	
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	0.0025	<0.0062	0.0178	0.022	<0.0025	<0.0025	0.0025	0.0089	0.0292	0.0651	0.173	0.0182	0.0194	<0.0062	<0.0025	0.0030	0.0034	1.30	0.0169	1.47	1.68	
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0027	0.001	<0.0002	0.0030	<0.0002	0.0008	0.0018	0.0070	0.0218	0.0018	0.0027	<0.0005	<0.0002	<0.0002	<0.0002	0.127	0.0018	0.15	0.18	
	18/04/2018	-	-	-	-	-	-	-	0.0040	-	-	-	0.0028	0.005	0.0027	0.0061	0.0005	0.0077	-	0.0304	0.0235	0.0069	0.0033	-	-	0.0007	0.0056	0.208	0.0214	0.23	0.322	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	0.0010	<0.0005	<0.0002	<0.0005	0.0010	<0.001	0.0002	0.0048	0.0002	0.0012	0.0022	0.0052	0.0006	0.0007	<0.0005	<0.0002	0.0004	<0.0002	0.157	0.0007	0.162	0.176	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0005	0.0014	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0019	<0.0002	0.0004	0.0011	0.0019	0.0087	0.0004	0.0010	<0.0005	<0.0002	<0.0002	<0.0002	0.0476	0.0005	0.0563	0.0661
	18/10/2019	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0003	<0.0005	0.0099	<0.0005	0.0003	<0.0005	0.0115	0.005	0.0004	0.0048	0.0007	0.0030	0.0111	0.0262	0.0809	0.0075	0.0122	<0.0005	0.0004	0.0003	0.0009	0.522	0.0076	0.603	0.706	
29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	0.0008	0.001	<0.0005	<0.0005	<0.0005	0.0016	0.0013	0.0138	<0.0005	0.0009	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0009	0.198	0.203	
10/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0058	<0.0025	<0.001	<0.0025	0.0014	<0.005	0.0011	<0.001	<0.001	<0.001	0.0039	0.0025	0.022	<0.001	0.0012	<0.0025	<0.001	<0.001	<0.001	0.243	0.0017	0.265	0.283		
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0077	0.0004	0.0002	0.0027	0.0021	0.0168	0.0005	0.0011	<0.0005	<0.0002	0.0003	<0.0002	0.142	0.0012	0.159	0.178		
SD125	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0017	0.0175	0.0185	0.124	0.0022	0.0064	<0.0025	<0.0010	<0.0010	<0.0010	0.818	0.0056	0.942	1	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0006	<0.0002	0.0002	0.0038	0.0032	0.0214	0.0003	0.0010	<0.0005	<0.0002	<0.0002	<0.0002	0.147	0.0012	0.168	0.179	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	0.0004	<0.0002	0.0006	0.0028	0.0062	0.0202	0.0011	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.109	0.0017	0.129	0.145	
	15/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0048	<0.001	<0.0002	<0.0002	<0.0002	0.0010	0.0050	0.0159	0.0542	0.0027	0.0050	<0.0005	<0.0002	<0.0002	<0.0002	0.224	0.0038	0.278	0.317	
	27/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0006	<0.002	<0.0005	<0.0005	<0.0005	0.0010	0.0012	0.0100	<0.0005	0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0880	<0.0005	0.098	0.101	
	7/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	<0.0005	0.001	<0.002	0.0047	<0.0002	<0.0002	0.0002	0.0014	0.0028	0.0109	0.0007	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.306	0.0007	0.317	0.331	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0017	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0005	<0.0002	0.0005	0.0019	0.0092	0.0248	0.0013	0.0025	<0.0005	<0.0002	<0.0002	<0.0002	0.0534	0.0013	0.0782	0.0971	
SD126	6/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0005	<0.0002	0.0009	0.0013	0.0101	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0699	0.0009	0.08	0.0848		
	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0034	<0.001	<0.0010	0.0038	<0.0010	<0.0010	0.0034	0.0064	0.0341	0.0016	0.0019	<0.0025	<0.0010	<0.0010	<0.0010	0.350	0.0028	0.384	0.407	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0008	0.0030	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0503	0.0004	0.0533	0.0559	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0018	<0.0002	<0.0002	0.0006	0.0008	0.0052	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0602	0.0004	0.0654	0.0702	
	17/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0036	<0.0002	0.004	0.004	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0011	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0015	0.0038	0.0327	0.0006	0.0019	<0.0005	<0.0002	<0.0002	<0.0002	0.0344	0.0025	0.0671	0.0793	
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0038	0.0038	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0356	0.0003	0.0394	0.0418	
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0017	<0.0005	<0.0002	<0.0005	0.0021	<0.001	<0.0002	0.0283	<0.0002	0.0004	0.0035	0.0039	0.0234	0.0018	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.492	0.0018	0.515	0.561		
SD131	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0002	0.0020	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0054	<0.0002	0.0061	0.0061	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<																			

Appendix C

Analytical Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	[REDACTED]	Date:	08/06/2021
Client:	Department of Defence				
Site:	Royal Australian Air Force (RAAF) Base Townsville				
Matrix type:	Groundwater, surface water, sediment	Data verified by:	[REDACTED]	Date:	10/06/2021
No. of primary samples:	109 groundwater, 39 surface water, 37 sediment				
Laboratory:	ALS (Brisbane), NMI (Sydney)	Project Manager:	[REDACTED]		
Lab reference:	EB2110367, EB2110866, EB2111376, EB2111812, EB2111836, EB2112383, EB2114819, RN1313030, RN1314379, RN1314922				

Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project. The data are considered appropriate for use to meet the project objectives.
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Field QA/QC	
Sampling personnel	Sampling was conducted by AECOM personnel between 15 April and 28 May 2021.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
Chain of Custody (COC)	COC documents completed as per AECOM procedures.
Rinsate Blank	<p>Rinsate blank samples were collected at a frequency of at least one per day of sampling (eleven in total). Rinsates were collected from the decontaminated interface probe and the surface water collection cup. Concentrations were reported below the LOR for all analytes tested (see Table C4) except for detections in two rinsates: 0874_QC307_210429 and 0874_QC309_210430.</p> <p>The rinsate detections are likely due to incomplete decontamination of the interface probe. Samples collected on 29/04/2021 and 30/04/2021 were assess in light of the potential for cross contamination. The concentrations reported in the samples collected on this date are not consistent with cross contamination between sampling locations, rather they appear to be more consistent with fluctuations of PFAS concentrations in source areas. The concentrations reported are orders of magnitude above the detects identified in the rinsate.</p>
Trip Blanks	Trip blank samples were collected at a frequency of one per batch of samples submitted to ALS. Six primary sample batches with six associated trip blanks were submitted to the laboratory. All trip blanks reported concentrations below the LOR, see Table C5 .
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in ten primary samples (eleven duplicates and triplicates for groundwater, five duplicates and triplicates for surface water and four duplicates and triplicates for sediment). The target frequency of 10% for field duplicates and triplicates was achieved for groundwater, surface water and sediment.
Handling and preservation	<p>Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 0.1°C and 18.2°C. The elevated sample temperature of 18.0°C and 18.2°C were likely to be due to direct delivery of the samples from the field to the laboratory with insufficient time for the samples to be cooled before delivery.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.</p>
Equipment Calibration	<p>Calibration of the water quality meter was conducted the morning of each sampling day. Records of calibration are attached in Appendix F for the following dates:</p> <ul style="list-style-type: none"> • 15/04/2021 to 16/04/2021

- 19/04/2021 to 22/04/2021
- 27/04/2021 to 30/04/2021
- 06/05/2021
- 28/05/2021.

Laboratory QA/QC

Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> • Laboratory Duplicates for PFAS (5.56 to 9.52%) were below the expected rate of 10% in EB2111812 and EB2112383. Each batch had samples analysed for PFAS. The number of samples analysed was insufficient to meet the required frequency of laboratory duplicates for this analysis and is therefore not considered a non-conformance. • Matrix spikes for PFAS (4.76%) were below the expected rate of 5% in EB2111812. The batch had samples analysed for PFAS. The number of samples analysed was insufficient to meet the required frequency of laboratory duplicates for this analysis and is therefore not considered a non-conformance. This is not expected to impact data quality.
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	<p>Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples, except where the RPD exceeded the LOR based limit of 20% in EB2111812 for the following analytes:</p> <ul style="list-style-type: none"> • PFHxS (47.3%) in 0874_MW467_210427. • PFHxA (32.0%) in 0874_MW110_210429. • Sum of PFAS (38.1%) in 0874_MW467_210427. • Sum of PFHxS and PFOS (35.5%) in 0874_MW467_210427. • Sum of PFAS (WA DER List) (38.1%) in 0874_MW467_210427. <p>This is not considered to impact data quality.</p>
Laboratory control spike recovery	<p>Laboratory Control Spikes (LCS) were within control limits for all samples, except where there was a recovery greater than the upper control limit of 137% in EB2112383 for:</p> <ul style="list-style-type: none"> • 8:2 FTS (140%) in laboratory sample QC-3671010-002.
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> • PFHxS, PFOS and PFHxA in 0874_SD125_210422 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2111376. • PFHxS, PFOS and PFHxA in 0874_SW125_210422 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2111376. • 10:2 FTS in 0874_QC304_210422 where recovery was greater than the upper data quality objective in EB2111376. • PFPeS, PFHxS and 10:2 FTS in 0874_MW135_210428 where recovery was less than the lower data quality objective, MS recovery was not determined due to background level greater than or equal to four times spike level, and recovery was greater than the upper data quality objective respectively in EB2111812. • PFOS in 0874_MW248_210506 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2112383.

Surrogate spike recovery	This is not expected to impact data quality. Surrogate spike recoveries were within control limits.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels. LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples: <ul style="list-style-type: none"> • EP231B (PFTrDA and PFTeDA) and EP231C (MeFOSA, EtFOSA, MeFOSE and EtFOSE) in 0874_SD117_210416 (EB2110367); • EP231B (PFBA) in 0874_SW115_210416 (EB2110367); • EP231B (PFTeDA) and EP231C (MeFOSA, EtFOSA, MeFOSE and EtFOSE) in 0874_SW115_210416 and 0874_SW118_210416 (EB2110367); • EP231A (PFDS) in 0874_MW250_210421 (EB2110866); • EP231A (PFBS) in 0874_SD109_210420 and 0874_SD108_210420 (EB2110866); • EP231A (PFDS), EP231B (PFUnDA, PFDODA, PFTrDA and PFTeDA), EP231C, and EP231D (4:2 FTS) in 0874_MW129_210421 (EB2110866); • EP231A (PFPeS and PFHpS) in 0874_MW467_210427 (EB2111812); • EP231B (PFBA) in 0874_MW090_210428 (EB2111812); • EP231B, EP231C and EP231D in 0874_MW046_210428 and 0874_QC113_210428 (EB2111812); • EP231A, EP231B, EP231C and EP231D in 0874_MW081_210428, 0874_MW054_210428, 0874_MW055_210428, 0874_MW231_210428, 0874_MW015_210429, 0874_MW021_210429, 0874_MW139_210429, 0874_QC115_210429, 0874_MW138_210429, 0874_MW109_210429 and 0874_MW110_210429, 0874_MW005_210429, 0874_MW009_210429, 0874_MW247_210429, 0874_MW043_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_MW126_210429 and 0874_MW016_210429 (EB2111812); • EP231B (PFBA) in 0874_MW219_210429 and 0874_MW267_210429 (EB2111812); • EP231B (PFBA and PFTeDA), and EP231C (MeFOSA, EtFOSA, MeFOSE and EtFOSE) in 0874_MW251_210429 (EB2111812); • EP231A (PFDS), EP231B (PFBA, PFNA, PFDA, PFUnDA, PFDODA, PFTrDA and PFTeDA), and EP231C in 0874_MW038_210429 (EB2111812); • EP231A, EP231B, EP231C and EP231D in 0874_MW120_210430, 0874_QC116_210430, 0874_MW026_210430, 0874_MW243_210430, 0874_MW245_210430, and 0874_MW112_210430 (EB2111836); • EP231A, EP231B and EP231C in 0874_MW033_210430, 0874_MW223_210430, 0874_MW063_210430, 0874_MW061_210430, 0874_MW232_210430, and 0874_QC117_210430 (EB2111836); • EP231A (PFDS) in 0874_MW220_210430 (EB2111836); • EP231A, EP231B, EP231C and EP231D in 0874_MW013_210506, 0874_QC118_210506, and 0874_MW248_210506 (EB2112383).
Field duplicate RPDs	RPDs for groundwater, surface water, and sediment are reported in Tables C1, C2, and C3 respectively. Field duplicate RPDs were reported within control limits except the following (the sample with the higher concentration is in bold): <ul style="list-style-type: none"> • 0874_MW139_210429 and 0874_QC115_210429 for PFOS (37%); <p>The cause of the elevated RPD for the groundwater duplicate is unknown. While the RPD is outside the control limits, both the primary and the duplicate sample returned concentrations above the relevant guideline value for PFOS, therefore overall exceedance of guidelines at this location has been captured. This difference is not expected to impact data quality.</p>
Field triplicate RPDs	Field triplicate RPDs were reported within control limits with the exception of the following (the sample with the higher concentration is in bold): <ul style="list-style-type: none"> • 0874_MW046_210428 and 0874_QC213_210428 for PFHpS (52%);

- **0874_MW221_210429** and 0874_QC214_210429 for PFOS (37%);
- **0874_MW139_210429** and 0874_QC215_210429 for 6:2 FTS (35%), PFHpS (98%), PFOS (57%), PFHpA (42%), and PFOA (53%);
- 0874_MW120_210430 and **0874_QC216_210430** for PFBS (63%), PFPeS (45%), PFHxS (54%), PFOS (60%), PFHxA (42%), and PFOA (51%);
- **0874_MW061_210430** and 0874_QC217_210430 for PFHxA (34%);
- **0874_MW013_210506** and 0874_QC218_210506 for PFPeS (33%), PFHpS (41%), and PFOA (38%);
- **0874_SW116_210420** and 0874_QC204_210420 for PFOS (39%).

The non-compliant RPDs for triplicate groundwater and surface water samples are likely to be due to different extraction methods used by the laboratories. The minor non-compliances are not considered to affect the interpretation of the data. In general, the primary sample reported the highest concentration for each analyte.

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2110866	EB2110866	RPD	EB2110866	RN1313030	RPD	EB2111376	EB2111376	RPD	EB2111376	RN1313030	RPD
Field ID	0874 MW142 210421	0874 QC106 210421		0874 MW142 210421	0874 QC206 210421		0874 MW263 210422	0874 QC109 210422		0874 MW263 210422	0874 QC209 210422	
Date	21/04/2021 9:02	21/04/2021 9:02		21/04/2021 9:02	21/04/2021 9:02		22/04/2021 16:35	22/04/2021 16:35		22/04/2021 16:35	22/04/2021 16:35	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR												
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	0.07	0.06	15	0.07	0.052	30	<0.05	<0.05	NC	<0.05	<0.01	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	0.06	0.06	0	0.06	0.047	24
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	0.04	0.03	29	0.04	0.022	58
PFHxS	µg/L	0.02 : 0.01 (Interlab)	0.08	0.07	13	0.08	0.046	54	0.39	0.29	29	0.39	0.25	44
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFOS	µg/L	0.01 : 0.02 (Interlab)	0.12	0.1	18	0.12	0.062	64	0.21	0.2	5	0.21	0.2	5
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.1	<0.05	NC	<0.1	<0.1	NC	<0.1	<0.05	NC
PFHxA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	0.03	0.04	29	0.03	0.02	40
PFPeA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC	0.02	0.02	0	0.02	0.011	58
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
PFTTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD
Field ID	0874 MW233 210427	0874 QC110 210427		0874 MW233 210427	0874 QC210 210427		0874 MW218 210427	0874 QC111 210427		0874 MW218 210427	0874 QC211 210427	
Date	27/04/2021 10:41	27/04/2021 10:41		27/04/2021 10:41	27/04/2021 10:41		27/04/2021 16:34	27/04/2021 16:34		27/04/2021 16:34	27/04/2021 16:34	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR												
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	0.013	NC
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFHxS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	0.36	0.37	3	0.36	0.31	15
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFOS	µg/L	0.01 : 0.02 (Interlab)	<0.01	<0.01	NC	<0.01	<0.02	NC	0.06	0.06	0	0.06	0.044	31
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.1	<0.05	NC	<0.1	<0.1	NC	<0.1	<0.05	NC
PFHxA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	0.04	0.04	0	0.04	0.028	35
PFPeA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
PFTTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD
Field ID	0874 MW136 210428	0874 QC112 210428		0874 MW136 210428	0874 QC212 210428		0874 MW046 210428	0874 QC113 210428		0874 MW046 210428	0874 QC213 210428	
Date	28/04/2021 9:23			28/04/2021 9:23			28/04/2021 13:35			28/04/2021 13:35		
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR												
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	0.18	0.18	0	0.18	0.19	NC	<0.43	<0.43	NC	<0.43	0.016	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<1.09	<1.09	NC	<1.09	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<1.09	<1.09	NC	<1.09	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	0.014	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<1.09	<1.09	NC	<1.09	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<1.09	<1.09	NC	<1.09	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	0.03	0.04	29	0.03	0.03	0	4.96	5.04	2	4.96	4.9	1
PFPeS	µg/L	0.02 : 0.01 (Interlab)	0.02	0.03	40	0.02	0.02	0	8.91	9.09	2	8.91	7.1	23
PFHxS	µg/L	0.02 : 0.01 (Interlab)	0.24	0.27	12	0.24	0.24	0	123	126	2	123	140	13
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	0.013	0	9	8.17	10	9	5.3	52
PFOS	µg/L	0.01 : 0.02 (Interlab)	0.61	0.5	20	0.61	0.48	24	93.5	90	4	93.5	85	10
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.1	<0.05	NC	<2.2	<2.2	NC	<2.2	1.5	NC
PFHxA	µg/L	0.02 : 0.01 (Interlab)	0.08	0.08	0	0.08	0.065	21	36.2	36.2	0	36.2	31	15
PFPeA	µg/L	0.02	0.03	0.03	0	0.03	0.022	31	3.87	4	3	3.87	3.1	22
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	0.011	NC	2.56	2.7	5	2.56	1.9	30
PFOA	µg/L	0.01	0.02	0.02	0	0.02	0.015	29	6.22	6.56	5	6.22	5.3	16
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	0.023	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<1.09	<1.09	NC	<1.09	<0.02	NC
PFTTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.43	<0.43	NC	<0.43	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.43	<0.43	NC	<0.43	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 81 (1 - 10 x EQL); 50 (10 - 30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD	EB2111812	EB2111812	RPD	EB2111812	RN1314379	RPD
Field ID	0874 MW221 210429	0874 QC114 210429		0874 MW221 210429	0874 QC214 210429		0874 MW139 210429	0874 QC115 210429		0874 MW139 210429	0874 QC215 210429	
Date	29/04/2021 8:30	29/04/2021 8:30		29/04/2021 8:30	29/04/2021 8:30		29/04/2021 12:09	29/04/2021 12:09		29/04/2021 12:09	29/04/2021 12:09	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR												
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<10	<10	NC	<10	0.11	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	27	28	4	27	19	35
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<10	<10	NC	<10	0.53	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.05	<0.01	NC	<10	<10	NC	<10	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<25	<25	NC	<25	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<25	<25	NC	<25	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	0.26	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<25	<25	NC	<25	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<25	<25	NC	<25	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	0.33	0.31	6	0.33	0.33	0	53	62	16	53	50	6
PFPeS	µg/L	0.02 : 0.01 (Interlab)	0.28	0.33	16	0.28	0.26	7	47	62	28	47	39	19
PFHxS	µg/L	0.02 : 0.01 (Interlab)	1.78	1.74	2	1.78	1.5	17	407	450	10	407	370	10
PFHpS	µg/L	0.02 : 0.01 (Interlab)	0.08	0.09	12	0.08	0.05	46	64	52	21	64	22	98
PFOS	µg/L	0.01 : 0.02 (Interlab)	1.08	1.02	6	1.08	0.74	37	1520	2210	37	1520	850	57
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	0.014	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	0.11	10	<0.1	0.092	NC	<50	<50	NC	<50	19	NC
PFHxA	µg/L	0.02 : 0.01 (Interlab)	0.44	0.41	7	0.44	0.4	10	161	193	18	161	150	7
PFPeA	µg/L	0.02	0.08	0.08	0	0.08	0.083	4	36	42	15	36	27	29
PFHpA	µg/L	0.02 : 0.01 (Interlab)	0.04	0.05	22	0.04	0.038	5	29	36	22	29	19	42
PFOA	µg/L	0.01	0.07	0.07	0	0.07	0.058	19	57	59	3	57	33	53
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	0.028	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	0.21	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.05	<0.02	NC	<25	<25	NC	<25	<0.02	NC
PFTTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<10	<10	NC	<10	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.02	<0.01	NC	<10	<10	NC	<10	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2111836	EB2111836	RPD	EB2111836	RN1314379	RPD	EB2111836	EB2111836	RPD	EB2111836	RN1314379	RPD
Field ID	0874 MW120 210430	0874 QC116 210430		0874 MW120 210430	0874 QC216 210430		0874 MW061 210430	0874 QC117 210430		0874 MW061 210430	0874 QC217 210430	
Date	30/04/2021 8:35	30/04/2021 8:35		30/04/2021 8:35	30/04/2021 8:35		30/04/2021 9:56	30/04/2021 9:56		30/04/2021 9:56	30/04/2021 9:56	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR												
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	0.04	NC	<0.05	<0.05	NC	<0.05	0.024	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	0.015	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.25	<0.25	NC	<0.25	<0.02	NC	<0.12	<0.12	NC	<0.12	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
EtFOSE	µg/L	0.05	<0.25	<0.25	NC	<0.25	<0.05	NC	<0.12	<0.12	NC	<0.12	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	0.047	NC	0.05	0.05	0	0.05	0.02	86
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.25	<0.25	NC	<0.25	<0.02	NC	<0.12	<0.12	NC	<0.12	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
MeFOSE	µg/L	0.05	<0.25	<0.25	NC	<0.25	<0.05	NC	<0.12	<0.12	NC	<0.12	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	1.67	1.77	6	1.67	3.2	63	0.45	0.45	0	0.45	0.44	2
PFPeS	µg/L	0.02 : 0.01 (Interlab)	1.89	1.81	4	1.89	3	45	0.61	0.59	3	0.61	0.54	12
PFHxS	µg/L	0.02 : 0.01 (Interlab)	13.8	12.7	8	13.8	24	54	5.93	5.99	1	5.93	4.9	19
PFHpS	µg/L	0.02 : 0.01 (Interlab)	0.82	0.82	0	0.82	1.1	29	0.43	0.39	10	0.43	0.31	32
PFOS	µg/L	0.01 : 0.02 (Interlab)	22.6	19.4	15	22.6	42	60	12.6	12.6	0	12.6	10	23
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	0.7	0.7	0	0.7	0.82	16	0.3	0.4	29	0.3	0.31	3
PFHxA	µg/L	0.02 : 0.01 (Interlab)	3.8	3.72	2	3.8	5.8	42	1.33	1.41	6	1.33	0.94	34
PFPeA	µg/L	0.02	0.78	0.81	4	0.78	0.92	16	0.32	0.33	3	0.32	0.29	10
PFHpA	µg/L	0.02 : 0.01 (Interlab)	0.53	0.52	2	0.53	0.58	9	0.21	0.22	5	0.21	0.17	21
PFOA	µg/L	0.01	1.13	1.15	2	1.13	1.9	51	0.55	0.56	2	0.55	0.49	12
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	0.013	NC	<0.05	<0.05	NC	<0.05	0.01	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.25	<0.25	NC	<0.25	<0.02	NC	<0.12	<0.12	NC	<0.12	<0.02	NC
PFTTrDA	µg/L	0.02	<0.1	<0.1	NC	<0.1	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.1	<0.1	NC	<0.1	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2112383	EB2112383	RPD	EB2112383	RN1314922	RPD
Field ID	0874 MW013 210506	0874 QC118 210506		0874 MW013 210506	0874 QC218 210506	
Date	6/05/2021 9:33	6/05/2021 9:33		6/05/2021 9:33	6/05/2021 9:33	
Sample Type	Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR							
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	0.019	NC	
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	3.65	3.75	3	3.65	3.3	10	
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	0.056	NC	
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<1.25	<1.25	NC	<1.25	<0.02	NC	
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
EtFOSE	µg/L	0.05	<1.25	<1.25	NC	<1.25	<0.05	NC	
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<1.25	<1.25	NC	<1.25	<0.02	NC	
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
MeFOSE	µg/L	0.05	<1.25	<1.25	NC	<1.25	<0.05	NC	
PFBS	µg/L	0.02 : 0.01 (Interlab)	15	14	7	15	13	14	
PFPeS	µg/L	0.02 : 0.01 (Interlab)	15.4	14.8	4	15.4	11	33	
PFHxS	µg/L	0.02 : 0.01 (Interlab)	63	63	0	63	48	27	
PFHpS	µg/L	0.02 : 0.01 (Interlab)	7.75	7.9	2	7.75	5.1	41	
PFOS	µg/L	0.01 : 0.02 (Interlab)	186	183	2	186	160	15	
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
PFBA	µg/L	0.1 : 0.05 (Interlab)	7.1	7.3	3	7.1	6.2	14	
PFHxA	µg/L	0.02 : 0.01 (Interlab)	46.1	45.2	2	46.1	34	30	
PFPeA	µg/L	0.02	9.65	9.55	1	9.65	7.5	25	
PFHpA	µg/L	0.02 : 0.01 (Interlab)	9.05	9.05	0	9.05	6.7	30	
PFOA	µg/L	0.01	12.8	13	2	12.8	8.7	38	
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	0.074	NC	
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<1.25	<1.25	NC	<1.25	<0.02	NC	
PFTTrDA	µg/L	0.02	<0.5	<0.5	NC	<0.5	<0.02	NC	
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.5	<0.5	NC	<0.5	<0.01	NC	

Table C2: Surface Water Duplicate and Triplicate Results

Lab Report Number	EB2110367	EB2110367	RPD	EB2110367	RN1313030	RPD	EB2110866	EB2110866	RPD	EB2110866	RN1313030	RPD
Field ID	0874 SW202 210415	0874 QC100 210415		0874 SW202 210415	0874 QC200 210415		0874 SW129 210420	0874 QC102 210420		0874 SW129 210420	0874 QC202 210420	
Date	15/04/2021 10:45	15/04/2021 10:45		15/04/2021 10:45	15/04/2021 10:45		20/04/2021 13:08	20/04/2021 13:08		20/04/2021 13:08	20/04/2021 13:08	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR													
4:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
6:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
8:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
10:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
EiFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
EiFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
EiFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	
FOSA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
MeFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
MeFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	
PFBS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFPeS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFHxS	µg/L	0.01	0.04	0.04	0	0.04	0.03	29	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFHpS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFOS	µg/L	0.01	0.04	0.05	22	0.04	0.029	32	<0.01	<0.01	NC	<0.01	<0.01	NC	
PFDS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFBA	µg/L	0.05	<0.1	<0.1	NC	<0.1	<0.05	NC	<0.1	<0.1	NC	<0.1	<0.05	NC	
PFHxA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFPeA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	
PFHpA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC	<0.01	<0.01	NC	
PFDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFDODA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFNA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFTeDA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	
PFUnDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2: Surface Water Duplicate and Triplicate Results

Lab Report Number	EB2110866	EB2110866	RPD	EB2110866	RN1313030	RPD	EB2111376	EB2111376	RPD	EB2111376	RN1313030	RPD
Field ID	0874 SW116 210420	0874 QC104 210420		0874 SW116 210420	0874 QC204 210420		0874 SW014 210422	0874 QC107 210422		0874 SW014 210422	0874 QC207 210422	
Date	20/04/2021 16:13	20/04/2021 16:13		20/04/2021 16:13	20/04/2021 16:13		22/04/2021 14:29	22/04/2021 14:29		22/04/2021 14:29	22/04/2021 14:29	
Sample Type	Primary	Duplicate		Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR													
4:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
6:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
8:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
10:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	<0.05	<0.05	NC	<0.05	<0.01	NC	
EiFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
EiFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
EiFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	
FOSA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
MeFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
MeFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	<0.05	NC	
PFBS	µg/L	0.01	0.08	0.07	13	0.08	0.071	12	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFPeS	µg/L	0.01	0.07	0.06	15	0.07	0.052	30	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFHxS	µg/L	0.01	0.35	0.35	0	0.35	0.28	22	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFHpS	µg/L	0.01	<0.02	<0.02	NC	<0.02	0.013	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFOS	µg/L	0.01	0.76	0.83	9	0.76	0.51	39	0.02	0.03	40	0.02	0.025	22	
PFDS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFBA	µg/L	0.05	<0.1	<0.1	NC	<0.1	<0.05	NC	<0.1	<0.1	NC	<0.1	<0.05	NC	
PFHxA	µg/L	0.01	0.17	0.18	6	0.17	0.12	34	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFPeA	µg/L	0.02	0.05	0.05	0	0.05	0.033	41	<0.02	<0.02	NC	<0.02	<0.02	NC	
PFHpA	µg/L	0.01	0.02	0.03	40	0.02	0.019	5	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFOA	µg/L	0.01	0.05	0.05	0	0.05	0.03	50	<0.01	<0.01	NC	<0.01	<0.01	NC	
PFDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFDoDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFNA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	
PFTeDA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	<0.05	<0.05	NC	<0.05	<0.02	NC	
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.02	<0.02	NC	
PFUnDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	<0.02	<0.02	NC	<0.02	<0.01	NC	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2: Surface Water Duplicate and Triplicate Results

Lab Report Number	EB2112383	EB2112383	RPD	EB2112383	RN1314922	RPD
Field ID	0874 SW113 210506	0874 QC119 210506		0874 SW113 210506	0874 QC219 210506	
Date	6/05/2021 11:35	6/05/2021 11:35		6/05/2021 11:35	6/05/2021 11:35	
Sample Type	Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR							
4:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	NC
6:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	NC
8:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	NC
10:2 FTS	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.01	NC	NC
EtFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	NC
EtFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	NC
FOSA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
MeFOSA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	NC
MeFOSAA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	NC
PFBS	µg/L	0.01	0.47	0.47	0	0.47	0.54	14	14
PFPeS	µg/L	0.01	0.44	0.42	5	0.44	0.43	2	2
PFHxS	µg/L	0.01	2.88	2.86	1	2.88	2.7	6	6
PFHpS	µg/L	0.01	0.13	0.13	0	0.13	0.079	49	49
PFOS	µg/L	0.01	1.82	1.64	10	1.82	1.5	19	19
PFDS	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
PFBA	µg/L	0.05	0.1	0.1	0	0.1	0.15	40	40
PFHxA	µg/L	0.01	0.91	0.95	4	0.91	0.86	6	6
PFPeA	µg/L	0.02	0.17	0.18	6	0.17	0.17	0	0
PFHpA	µg/L	0.01	0.08	0.08	0	0.08	0.077	4	4
PFOA	µg/L	0.01	0.14	0.14	0	0.14	0.12	15	15
PFDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
PFDaDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
PFNA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC
PFTeDA	µg/L	0.02	<0.05	<0.05	NC	<0.05	<0.02	NC	NC
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	NC
PFUnDA	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.01	NC	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relat

Table C3: Sediment Duplicate and Triplicate Results

Lab Report Number	EB2110367		EB2110367		RPD	EB2110367		RN1313030		RPD	EB2110866		EB2110866		RPD	EB2110866		EB2110866		RPD
Field ID	0874 SD202 210415		0874 QC101 210415			0874 SD202 210415		0874 QC201 210415			0874 SD129 210420		0874 QC103 210420			0874 SD129 210420		0874 QC203 210420		
Date	15/04/2021 10:45		15/04/2021 10:45		15/04/2021 10:45		15/04/2021 10:45		20/04/2021 13:09		20/04/2021 13:09		20/04/2021 13:09		20/04/2021 13:09		20/04/2021 16:16		20/04/2021 16:16	
Sample Type	Primary		Duplicate		Primary		TriPLICATE		Primary		Duplicate		Primary		TriPLICATE		Primary		Duplicate	
Chemical Name	Unit	LOR																		
4:2 FTS	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
6:2 FTS	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
8:2 FTS	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
10:2 FTS	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
EiFOSA	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
EiFOSAA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
EiFOSE	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
FOSA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
MeFOSA	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
MeFOSAA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
MeFOSE	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
PFBS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFPeS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFHxS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	0.0004	NC	0.0004	0.0004	0
PFHpS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFOS	mg/kg	0.0002	0.0008	0.0009	12	0.0008	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	0.0044	0.0043	NC	0.0044	0.0043	2
PFDS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFBA	mg/kg	0.001	<0.001	<0.001	NC	<0.001	<0.002	NC	<0.001	<0.001	NC	<0.001	<0.002	NC	<0.001	<0.001	NC	<0.001	<0.001	NC
PFHxA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	0.0008	0.0008	NC	0.0008	0.0008	0
PFPeA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	0.0002	NC	<0.0002	0.0002	0
PFHpA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	0.0002	NC	<0.0002	0.0002	0
PFOA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	0.0006	0.0007	NC	0.0006	0.0007	15
PFDA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFDoDA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFNA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFTeDA	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC
PFTrDA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC
PFUnDA	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C3: Sediment Duplicate and Triplicate Results

Lab Report Number	EB2110866	RN1313030	RPD	EB2111376	EB2111376	RPD	EB2111376	RN1313030	RPD
Field ID	0874 SD116 210420	0874 QC205 210420		0874 SD014 210422	0874 QC108 210422		0874 SD014 210422	0874 QC208 210422	
Date	20/04/2021 16:16	20/04/2021 16:16		22/04/2021 14:40	22/04/2021 14:40		22/04/2021 14:40	22/04/2021 14:40	
Sample Type	Primary	Triplicate		Primary	Duplicate		Primary	Triplicate	

Chemical Name	Unit	LOR									
4:2 FTS	mg/kg	0.0005	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC
6:2 FTS	mg/kg	0.0005	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC
8:2 FTS	mg/kg	0.0005	<0.0005	<0.001	NC	<0.0005	<0.0005	NC	<0.0005	<0.001	NC
10:2 FTS	mg/kg	0.0005	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC
EiFOSA	mg/kg	0.0005	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC
EiFOSAA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC
EiFOSE	mg/kg	0.0005	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.005	NC
FOSA	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
MeFOSA	mg/kg	0.0005	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC
MeFOSAA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC
MeFOSE	mg/kg	0.0005	<0.0005	<0.005	NC	<0.0005	<0.0005	NC	<0.0005	<0.005	NC
PFBS	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFPeS	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFHxS	mg/kg	0.0002	0.0004	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFHpS	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFOS	mg/kg	0.0002	0.0044	0.0036	20	0.0005	0.001	67	0.0005	<0.002	NC
PFDS	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFBA	mg/kg	0.001	<0.001	<0.002	NC	<0.001	<0.001	NC	<0.001	<0.002	NC
PFHxA	mg/kg	0.0002	0.0008	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFPeA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC
PFHpA	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFOA	mg/kg	0.0002	0.0006	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFDA	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFDoDA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	0.0003	NC	<0.0002	<0.002	NC
PFNA	mg/kg	0.0002	<0.0002	<0.001	NC	<0.0002	<0.0002	NC	<0.0002	<0.001	NC
PFTeDA	mg/kg	0.0005	<0.0005	<0.002	NC	<0.0005	<0.0005	NC	<0.0005	<0.002	NC
PFTrDA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC
PFUnDA	mg/kg	0.0002	<0.0002	<0.002	NC	<0.0002	<0.0002	NC	<0.0002	<0.002	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Appendix D

Chain of Custody Forms



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Brisbane
Work Order Reference
EB2110367



Telephone : +61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PASOMP Client: AECOM Project Manager: _____

Phone: _____

ALS Compass COG Reference: 21519 # Samples: _____ Sampler: _____

Phone: _____

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:

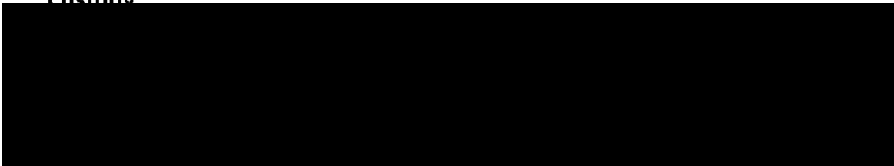
ALS Use Only

Custody seal intact? YES NO N/A

Free ice / frozen ice bricks upon receipt? YES NO N/A

Random sample temperature on receipt? °C

Custody:



Relinquished by:

Received by:

Date / Time: 16/4/21
17:20

Date / Time: 16/4/21 5:25pm

Date / Time:

Date / Time:

**CHAIN OF CUSTODY**

ALS COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
001	0874_QC500_210415		15/04/2021 06:56 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
002	0874_SW017_210415		15/04/2021 07:03 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		Bottles are 125ml not 20ml
003	0874_SW021_210415		15/04/2021 04:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
004	0874_SW202_210415		15/04/2021 10:45 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0874_SW205_210415		15/04/2021 11:20 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
006	0874_SW120_210415		15/04/2021 03:57 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_SW204_210415		15/04/2021 02:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
008	0874_SW203_210415		15/04/2021 01:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
009	0874_SW206_210415		15/04/2021 07:13 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC100_210415		15/04/2021 10:45 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
011	0874_SW207_210415		15/04/2021 12:55 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_SD021_210415		15/04/2021 04:45 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_SD017_210415		15/04/2021 05:10 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
014	0874_QC101_210415		15/04/2021 10:45 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
015	0874_SD205_210415		15/04/2021 07:23 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
016	0874_SD202_210415		15/04/2021 10:45 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
017	0874_SD206_210415		15/04/2021 12:20 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
018	0974_SD203_210415		15/04/2021 01:30 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

**CHAIN OF CUSTODY**

COCH#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SD120_210415		15/04/2021 03:57 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
020	0874_SD207_210415		15/04/2021 12:55 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
021	0874_SD204_210415		15/04/2021 02:00 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
022	0874_QC300_210415		15/04/2021 06:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
023	0874_SW117_210416		16/04/2021 08:27 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
024	0874_SD117_210416		16/04/2021 08:28 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
025	0874_SD118_210416		16/04/2021 09:21 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
026	0874_SW118_210416		16/04/2021 09:22 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
027	0874_SW115_210416		16/04/2021 09:44 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SD115_210416		16/04/2021 09:45 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
029	0874_SW210_210416		16/04/2021 12:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
030	0874_SD210_210416		16/04/2021 12:21 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
031	0874_SW112_210416		16/04/2021 02:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
032	0874_SD112_210416		16/04/2021 02:01 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
033	0874_SW131_210416		16/04/2021 02:56 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
034	0874_SD131_210416		16/04/2021 02:59 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
035	0874_QC301_210416		16/04/2021 05:16 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_QC500_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW017_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW021_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW202_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW205_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW120_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW204_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW203_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW206_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC100_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW207_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SD021_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_SD017_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
014	0874_QC101_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
015	0874_SD205_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

ALS COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016	0874_SD202_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
017	0874_SD206_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
018	0874_SD203_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
019	0874_SD120_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
020	0874_SD207_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
021	0874_SD204_210415	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_QC300_210415	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW117_210416	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SD117_210416	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
025	0874_SD118_210416	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
026	0874_SW118_210416	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SW115_210416	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SD115_210416	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
029	0874_SW210_210416	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SD210_210416	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
031	0874_SW112_210416	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

ALS COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

Sample ID	Sample Description	Matrix	Analysis
032	0874_SD112_210416 Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
033	0874_SW131_210416 Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_SD131_210416 Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
035	0874_QC301_210416 Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_QC500_210415	HDPE (no PTFE)	20 mL	00352010034635	Grey	No	
001	0874_QC500_210415	HDPE (no PTFE)	20 mL	00352010034727	Grey	No	
002	0874_SW017_210415	HDPE (no PTFE)	20 mL	00350719030228	Grey	No	
002	0874_SW017_210415	HDPE (no PTFE)	20 mL	00350719030182	Grey	No	
003	0874_SW021_210415	HDPE (no PTFE)	20 mL	00351219044510	Grey	No	
003	0874_SW021_210415	HDPE (no PTFE)	20 mL	00351219044431	Grey	No	
004	0874_SW202_210415	HDPE (no PTFE)	20 mL	00351219044620	Grey	No	
004	0874_SW202_210415	HDPE (no PTFE)	20 mL	00351219044615	Grey	No	
005	0874_SW205_210415	HDPE (no PTFE)	20 mL	00350719030168	Grey	No	
005	0874_SW205_210415	HDPE (no PTFE)	20 mL	00350719030231	Grey	No	
006	0874_SW120_210415	HDPE (no PTFE)	20 mL	00350719030120	Grey	No	
006	0874_SW120_210415	HDPE (no PTFE)	20 mL	00350719030111	Grey	No	
007	0874_SW204_210415	HDPE (no PTFE)	20 mL	00350719030139	Grey	No	
007	0874_SW204_210415	HDPE (no PTFE)	20 mL	00350719030109	Grey	No	
008	0874_SW203_210415	HDPE (no PTFE)	20 mL	00350719030271	Grey	No	
008	0874_SW203_210415	HDPE (no PTFE)	20 mL	00350719030129	Grey	No	
009	0874_SW206_210415	HDPE (no PTFE)	20 mL	00350719030132	Grey	No	
009	0874_SW206_210415	HDPE (no PTFE)	20 mL	00350719030091	Grey	No	
010	0874_QC100_210415	HDPE (no PTFE)	20 mL	00350719030113	Grey	No	
010	0874_QC100_210415	HDPE (no PTFE)	20 mL	00350719030087	Grey	No	
011	0874_SW207_210415	HDPE (no PTFE)	20 mL	00350719030097	Grey	No	
011	0874_SW207_210415	HDPE (no PTFE)	20 mL	00350719030211	Grey	No	
012	0874_SD021_210415	HDPE Soil Jar	200 mL	00620219019599	Grey	No	
013	0874_SD017_210415	HDPE Soil Jar	200 mL	00620719071685	Grey	No	
014	0874_QC101_210415	HDPE Soil Jar	200 mL	00620719071695	Grey	No	
015	0874_SD205_210415	HDPE Soil Jar	200 mL	00620719071640	Grey	No	

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

ID	Sample ID	Material	Volume	Barcode	Color	Seal
016	0874_SD202_210415	HDPE Soil Jar	200 mL	00620719071651	Grey	No
017	0874_SD206_210415	HDPE Soil Jar	200 mL	00620719071568	Grey	No
018	0874_SD203_210415	HDPE Soil Jar	200 mL	00620719071664	Grey	No
019	0874_SD120_210415	HDPE Soil Jar	200 mL	00620719071662	Grey	No
020	0874_SD207_210415	HDPE Soil Jar	200 mL	00620719071639	Grey	No
021	0874_SD204_210415	HDPE Soil Jar	200 mL	00620719071658	Grey	No
022	0874_QC300_210415	HDPE (no PTFE)	20 mL	00350719030223	Grey	No
022	0874_QC300_210415	HDPE (no PTFE)	20 mL	00350719030257	Grey	No
023	0874_SW117_210416	HDPE (no PTFE)	20 mL	00350719030358	Grey	No
023	0874_SW117_210416	HDPE (no PTFE)	20 mL	00350719030184	Grey	No
024	0874_SD117_210416	HDPE Soil Jar	200 mL	00620219019703	Grey	No
025	0874_SD118_210416	HDPE Soil Jar	200 mL	00620719071648	Grey	No
026	0874_SW118_210416	HDPE (no PTFE)	20 mL	00351219044655	Grey	No
026	0874_SW118_210416	HDPE (no PTFE)	20 mL	00351219044637	Grey	No
027	0874_SW115_210416	HDPE (no PTFE)	20 mL	00350719030102	Grey	No
027	0874_SW115_210416	HDPE (no PTFE)	20 mL	00350719030152	Grey	No
028	0874_SD115_210416	HDPE Soil Jar	200 mL	00620719071659	Grey	No
029	0874_SW210_210416	HDPE (no PTFE)	20 mL	00351219044448	Grey	No
029	0874_SW210_210416	HDPE (no PTFE)	20 mL	00351219044532	Grey	No
030	0874_SD210_210416	HDPE Soil Jar	200 mL	00620219019648	Grey	No
031	0874_SW112_210416	HDPE (no PTFE)	20 mL	00350719030104	Grey	No
031	0874_SW112_210416	HDPE (no PTFE)	20 mL	00350719030159	Grey	No
032	0874_SD112_210416	HDPE Soil Jar	200 mL	00620219019695	Grey	No
033	0874_SW131_210416	HDPE (no PTFE)	20 mL	00350719030110	Grey	No
033	0874_SW131_210416	HDPE (no PTFE)	20 mL	00350719030101	Grey	No
034	0874_SD131_210416	HDPE Soil Jar	200 mL	00620719071637	Grey	No
035	0874_QC301_210416	HDPE (no PTFE)	20 mL	00350719030308	Grey	No

**CHAIN OF CUSTODY**

COC#: 21519 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

035

0874_QC301_210416

HDPE (no PTFE)

20 mL

00350719030260

Grey

No

Total Bottle Count: ALS: 54, Non ALS: 0



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA50MP Client: AELOM

Project Manager
Phone:

ALS Compass COC Reference: 21651 # Samples: 42

Sampler:
Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

Custody:

[Redacted]		Relinquished by:	Received by:
		Date / Time: 21/4/21 1720	Date / Time: 21/4/21 1720
[Redacted]		Date / Time:	Date / Time:

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED				
							Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW129_210420		20/04/2021 01:08 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
002	0874_SD129_210420		20/04/2021 01:09 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
003	0874_QC102_210420		20/04/2021 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
004	0874_QC103_210420		20/04/2021 01:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
005	0874_SW111_210420		20/04/2021 02:06 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
006	0874_SD111_210420		20/04/2021 02:06 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
007	0874_MW235_210420		20/04/2021 02:17 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
008	0874_MW255_210420		20/04/2021 02:18 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
009	0874_MW234_210420		20/04/2021 02:19 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFA5OMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW110_210420		20/04/2021 02:26 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
011	0874_SD110_210420		20/04/2021 02:27 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
012	0874_SW109_210420		20/04/2021 02:59 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
013	0874_SD109_210420		20/04/2021 03:00 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
014	0874_SW108_210420		20/04/2021 03:09 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
015	0874_SD108_210420		20/04/2021 03:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
016	0874_SW107_210420		20/04/2021 03:25 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
017	0874_SD107_210420		20/04/2021 03:26 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
018	0874_SW208_210420		20/04/2021 03:54 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487 2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SD208_210420		20/04/2021 03:56 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
020	0874_SW116_210420		20/04/2021 04:13 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
021	0874_SD116_210420		20/04/2021 04:16 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
022	0874_QC104_210420		20/04/2021 04:13 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
023	0874_QC105_210420		20/04/2021 04:16 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
024	0874_QC302_210420		20/04/2021 04:38 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
025	0874_MW250_210421		21/04/2021 08:16 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
026	0874_MW142_210421		21/04/2021 09:02 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
027	0874_QC106_210421		21/04/2021 09:02 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21651

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW140_210421		21/04/2021 09:32 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
029	0874_MW118_210421		21/04/2021 09:49 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
030	0874_MW129_210421		21/04/2021 10:07 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
031	0874_MW212_210421		21/04/2021 12:11 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
032	0874_MW264_210421		21/04/2021 01:14 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
033	0874_MW256_210421		21/04/2021 01:41 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
034	0874_MW236_210421		21/04/2021 02:19 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
035	0874_MW257_210421		21/04/2021 02:45 PM	Water	ALS: 2 Non ALS: 0	No	-				
036	0874_MW258_210421		21/04/2021 03:05 PM	Water	ALS: 2 Non ALS: 0	No	-				

**CHAIN OF CUSTODY**

ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED				ADDITIONAL INFORMATION
							Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
037	0874_MW259_210421		21/04/2021 03:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
038	0874_MW260_210421		21/04/2021 03:49 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
039	0874_MW262_210421		21/04/2021 04:24 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
040	0874_MW254_210421		21/04/2021 04:44 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
041	0874_QC303_210421		21/04/2021 05:06 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
042	0874_QC501_210420		21/04/2021 05:16 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW129_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SD129_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
003	0874_QC102_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_QC103_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
005	0874_SW111_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SD111_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
007	0874_MW235_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW255_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW234_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW110_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SD110_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
012	0874_SW109_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SD109_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
014	0874_SW108_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SD108_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

016	0874_SW107_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_SD107_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
018	0874_SW208_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_SD208_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
020	0874_SW116_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SD116_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_QC104_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_QC105_210420	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
024	0874_QC302_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_MW250_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW142_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_QC106_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW140_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW118_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_MW129_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW212_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 21651 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032	0874_MW264_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_MW256_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_MW236_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_MW259_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_MW260_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_MW262_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW254_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_QC303_210421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_QC501_210420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 21651

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW129_210420	HDPE (no PTFE)	20 mL	00350719030248	Grey	No	
001	0874_SW129_210420	HDPE (no PTFE)	20 mL	00350719030289	Grey	No	
002	0874_SD129_210420	HDPE Soil Jar	200 mL	00620219019624	Grey	No	
003	0874_QC102_210420	HDPE (no PTFE)	20 mL	00351219044704	Grey	No	
003	0874_QC102_210420	HDPE (no PTFE)	20 mL	00351219044650	Grey	No	
004	0874_QC103_210420	HDPE Soil Jar	200 mL	00620219019623	Grey	No	
005	0874_SW111_210420	HDPE (no PTFE)	20 mL	00351219044610	Grey	No	
005	0874_SW111_210420	HDPE (no PTFE)	20 mL	00351219044648	Grey	No	
006	0874_SD111_210420	HDPE Soil Jar	200 mL	00620219019691	Grey	No	
007	0874_MW235_210420	HDPE (no PTFE)	20 mL	00352010079404	Grey	No	
007	0874_MW235_210420	HDPE (no PTFE)	20 mL	00352010079536	Grey	No	
007	0874_MW235_210420	HDPE (no PTFE)	20 mL	00352010079380	Grey	No	
007	0874_MW235_210420	HDPE (no PTFE)	20 mL	00352010079401	Grey	No	
008	0874_MW255_210420	HDPE (no PTFE)	20 mL	00352010079540	Grey	No	
008	0874_MW255_210420	HDPE (no PTFE)	20 mL	00352010079410	Grey	No	
008	0874_MW255_210420	HDPE (no PTFE)	20 mL	00352010079430	Grey	No	
008	0874_MW255_210420	HDPE (no PTFE)	20 mL	00352010079396	Grey	No	
009	0874_MW234_210420	HDPE (no PTFE)	20 mL	00352010079510	Grey	No	
009	0874_MW234_210420	HDPE (no PTFE)	20 mL	00352010079560	Grey	No	
009	0874_MW234_210420	HDPE (no PTFE)	20 mL	00352010079551	Grey	No	
009	0874_MW234_210420	HDPE (no PTFE)	20 mL	00352010079373	Grey	No	
010	0874_SW110_210420	HDPE (no PTFE)	20 mL	00351219044480	Grey	No	
010	0874_SW110_210420	HDPE (no PTFE)	20 mL	00351219044677	Grey	No	
011	0874_SD110_210420	HDPE Soil Jar	200 mL	00620219019632	Grey	No	
012	0874_SW109_210420	HDPE (no PTFE)	20 mL	00351219044513	Grey	No	
012	0874_SW109_210420	HDPE (no PTFE)	20 mL	00351219044520	Grey	No	

**CHAIN OF CUSTODY**

COC#: 21651

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

013	0874_SD109_210420	HDPE Soil Jar	200 mL	00621019048991	Grey	No	
014	0874_SW108_210420	HDPE (no PTFE)	20 mL	00350719030122	Grey	No	
014	0874_SW108_210420	HDPE (no PTFE)	20 mL	00350719030092	Grey	No	
015	0874_SD108_210420	HDPE Soil Jar	200 mL	00620219019658	Grey	No	
016	0874_SW107_210420	HDPE (no PTFE)	20 mL	00350719030263	Grey	No	
016	0874_SW107_210420	HDPE (no PTFE)	20 mL	00350719030190	Grey	No	
017	0874_SD107_210420	HDPE Soil Jar	200 mL	00620219019606	Grey	No	
018	0874_SW208_210420	HDPE (no PTFE)	20 mL	00351219044669	Grey	No	
018	0874_SW208_210420	HDPE (no PTFE)	20 mL	00351219044678	Grey	No	
019	0874_SD208_210420	HDPE Soil Jar	200 mL	00620719032970	Grey	No	
020	0874_SW116_210420	HDPE (no PTFE)	20 mL	00351219044629	Grey	No	
020	0874_SW116_210420	HDPE (no PTFE)	20 mL	00351219044686	Grey	No	
021	0874_SD116_210420	HDPE Soil Jar	200 mL	00620219019670	Grey	No	
022	0874_QC104_210420	HDPE (no PTFE)	20 mL	00351219044599	Grey	No	
022	0874_QC104_210420	HDPE (no PTFE)	20 mL	00351219044582	Grey	No	
023	0874_QC105_210420	HDPE Soil Jar	200 mL	00620219019640	Grey	No	
024	0874_QC302_210420	HDPE (no PTFE)	20 mL	00352010079493	Grey	No	
024	0874_QC302_210420	HDPE (no PTFE)	20 mL	00352010079298	Grey	No	
025	0874_MW250_210421	HDPE (no PTFE)	20 mL	00352010079275	Grey	No	
025	0874_MW250_210421	HDPE (no PTFE)	20 mL	00352010079278	Grey	No	
025	0874_MW250_210421	HDPE (no PTFE)	20 mL	00352010079314	Grey	No	
025	0874_MW250_210421	HDPE (no PTFE)	20 mL	00352010079276	Grey	No	
026	0874_MW142_210421	HDPE (no PTFE)	20 mL	00352010079501	Grey	No	
026	0874_MW142_210421	HDPE (no PTFE)	20 mL	00352010079286	Grey	No	
027	0874_QC106_210421	HDPE (no PTFE)	20 mL	00352010079283	Grey	No	
027	0874_QC106_210421	HDPE (no PTFE)	20 mL	00352010079301	Grey	No	
028	0874_MW140_210421	HDPE (no PTFE)	20 mL	00352010079282	Grey	No	

**CHAIN OF CUSTODY****(ALS) COC#: 21651** ALS Laboratory: EB Brisbane**RELINQUISHED BY:****RECEIVED BY:****RELINQUISHED BY:****RECEIVED BY:**

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

028	0874_MW140_210421	HDPE (no PTFE)	20 mL	00352010079288	Grey	No	
029	0874_MW118_210421	HDPE (no PTFE)	20 mL	00352010079317	Grey	No	
029	0874_MW118_210421	HDPE (no PTFE)	20 mL	00352010079534	Grey	No	
029	0874_MW118_210421	HDPE (no PTFE)	20 mL	00352010079356	Grey	No	
029	0874_MW118_210421	HDPE (no PTFE)	20 mL	00352010079492	Grey	No	
030	0874_MW129_210421	HDPE (no PTFE)	20 mL	00352010079403	Grey	No	
030	0874_MW129_210421	HDPE (no PTFE)	20 mL	00352010079523	Grey	No	
031	0874_MW212_210421	HDPE (no PTFE)	20 mL	00350019152615	Grey	No	
031	0874_MW212_210421	HDPE (no PTFE)	20 mL	00350019152606	Grey	No	
031	0874_MW212_210421	HDPE (no PTFE)	20 mL	00352010057958	Grey	No	
031	0874_MW212_210421	HDPE (no PTFE)	20 mL	00350019152677	Grey	No	
032	0874_MW264_210421	HDPE (no PTFE)	20 mL	00350019152704	Grey	No	
032	0874_MW264_210421	HDPE (no PTFE)	20 mL	00352010057861	Grey	No	
033	0874_MW256_210421	HDPE (no PTFE)	20 mL	00352010057836	Grey	No	
033	0874_MW256_210421	HDPE (no PTFE)	20 mL	00350019152601	Grey	No	
034	0874_MW236_210421	HDPE (no PTFE)	20 mL	00350019152720	Grey	No	
034	0874_MW236_210421	HDPE (no PTFE)	20 mL	00350019152611	Grey	No	
035	0874_MW257_210421	HDPE (no PTFE)	20 mL	00350019152655	Grey	No	
035	0874_MW257_210421	HDPE (no PTFE)	20 mL	00350019152694	Grey	No	
036	0874_MW258_210421	HDPE (no PTFE)	20 mL	00350019152619	Grey	No	
036	0874_MW258_210421	HDPE (no PTFE)	20 mL	00350019152669	Grey	No	
037	0874_MW259_210421	HDPE (no PTFE)	20 mL	00350019152730	Grey	No	
037	0874_MW259_210421	HDPE (no PTFE)	20 mL	00350019152688	Grey	No	
038	0874_MW260_210421	HDPE (no PTFE)	20 mL	00352010079280	Grey	No	
038	0874_MW260_210421	HDPE (no PTFE)	20 mL	00352010079460	Grey	No	
039	0874_MW262_210421	HDPE (no PTFE)	20 mL	00350019152685	Grey	No	
039	0874_MW262_210421	HDPE (no PTFE)	20 mL	00352010079285	Grey	No	

**CHAIN OF CUSTODY**

CO# #: 21651 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

039	0874_MW262_210421	HDPE (no PTFE)	20 mL	00350019152640	Grey	No	
039	0874_MW262_210421	HDPE (no PTFE)	20 mL	00352010079412	Grey	No	
040	0874_MW254_210421	HDPE (no PTFE)	20 mL	00352010057929	Grey	No	
040	0874_MW254_210421	HDPE (no PTFE)	20 mL	00350019152664	Grey	No	
040	0874_MW254_210421	HDPE (no PTFE)	20 mL	00350019152729	Grey	No	
040	0874_MW254_210421	HDPE (no PTFE)	20 mL	00350019152731	Grey	No	
041	0874_QC303_210421	HDPE (no PTFE)	20 mL	00350019152723	Grey	No	
041	0874_QC303_210421	HDPE (no PTFE)	20 mL	00352010057923	Grey	No	
042	0874_QC501_210420	HDPE (no PTFE)	20 mL	00352010034736	Grey	No	
042	0874_QC501_210420	HDPE (no PTFE)	20 mL	00352010034721	Grey	No	

Total Bottle Count: ALS: 90, Non ALS: 0

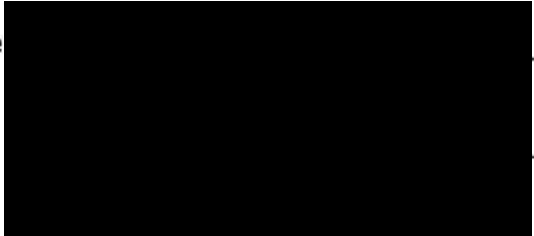
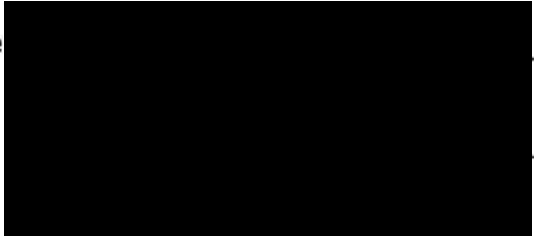


Environmental Division
Brisbane
Work Order Reference
EB2111376



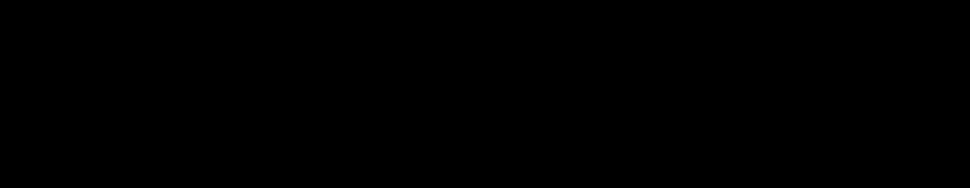
Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PPASOMP Client: AECOM Project Manager: 
 ALS Compass COC Reference: 21887 # Samples: 36 Sampler: 
 Turnaround Requirements: Standard Urgent

Special Instructions:

Custody:

		Relinquished by:	Received by:
Date / Time:	Date / Time:	Date / Time:	Date / Time:
27/4/21 1700	27/4/21 1700		

**CHAIN OF CUSTODY**

COC#: 21887

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SD126_210422		22/04/2021 09:25 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
002	0874_SW126_210422		22/04/2021 09:26 AM	Water	ALS: 2 Non ALS: 0	No	-				
003	0874_SD125_210422		22/04/2021 09:57 AM	Soil	ALS: 1 Non ALS: 0	No	-				
004	0874_SW125_210422		22/04/2021 09:56 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4			
005	0874_SD102_210422		22/04/2021 10:23 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
006	0874_SW102_210422		22/04/2021 10:23 AM	Water	ALS: 2 Non ALS: 0	No	-				
007	0874_SD013_210422		22/04/2021 10:48 AM	Soil	ALS: 1 Non ALS: 0	No	-				
008	0874_SW013_210422		22/04/2021 10:49 AM	Water	ALS: 4 Non ALS: 0	No	-				
009	0874_SD016_210422		22/04/2021 11:06 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

**CHAIN OF CUSTODY**

COC#: 21887 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED				
							Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW016_210422		22/04/2021 11:06 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
011	0874_SD123_210422		22/04/2021 11:19 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
012	0874_SW123_210422		22/04/2021 11:19 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
013	0874_SD019_210422		22/04/2021 11:48 AM	Soil	ALS: 1 Non ALS: 0	No	-				
014	0874_SW019_210422		22/04/2021 11:48 AM	Water	ALS: 2 Non ALS: 0	No	-				
015	0874_SD010_210422		22/04/2021 12:13 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
016	0874_SW010_210422		22/04/2021 12:14 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
017	0874_SD001_210422		22/04/2021 12:27 PM	Soil	ALS: 1 Non ALS: 0	No	-				
018	0874_SW001_210422		22/04/2021 12:28 PM	Water	ALS: 2 Non ALS: 0	No	-				

**CHAIN OF CUSTODY**

CO# #: 21887 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED				
							Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW119_210422		22/04/2021 03:07 PM	Water	ALS: 2 Non ALS: 0	No	-				
029	0874_SW114_210422		22/04/2021 03:29 PM	Water	ALS: 4 Non ALS: 0	No	-				
030	0874_SD114_210422		22/04/2021 03:37 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
031	0874_MW268_210422		22/04/2021 04:11 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		
032	0874_MW263_210422		22/04/2021 04:35 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
033	0874_QC109_210422		22/04/2021 04:36 PM	Water	ALS: 2 Non ALS: 0	No	-				
034	0874_MW270_210422		22/04/2021 04:55 PM	Water	ALS: 4 Non ALS: 0	No	-				
035	0874_QC304_210422		22/04/2021 05:01 PM	Water	ALS: 4 Non ALS: 0	No	-				
036	0874_QC502_210422		22/04/2021 05:34 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 21887 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

036	0874_QC502_210422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
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**CHAIN OF CUSTODY**

COC#: 21887

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SD126_210422	HDPE Soil Jar	200 mL	00620219019634	Grey	No	
002	0874_SW126_210422	HDPE (no PTFE)	20 mL	00350719028338	Grey	No	
002	0874_SW126_210422	HDPE (no PTFE)	20 mL	00350719028302	Grey	No	
003	0874_SD125_210422	HDPE Soil Jar	200 mL	00620219019612	Grey	No	
004	0874_SW125_210422	HDPE (no PTFE)	20 mL	00351219044575	Grey	No	
004	0874_SW125_210422	HDPE (no PTFE)	20 mL	00351219044602	Grey	No	
005	0874_SD102_210422	HDPE Soil Jar	200 mL	00620219019646	Grey	No	
006	0874_SW102_210422	HDPE (no PTFE)	20 mL	00350719028282	Grey	No	
006	0874_SW102_210422	HDPE (no PTFE)	20 mL	00350719028316	Grey	No	
007	0874_SD013_210422	HDPE Soil Jar	200 mL	00620219019651	Grey	No	
008	0874_SW013_210422	HDPE (no PTFE)	20 mL	00350719028186	Grey	No	
008	0874_SW013_210422	HDPE (no PTFE)	20 mL	00350719028308	Grey	No	
008	0874_SW013_210422	HDPE (no PTFE)	20 mL	00350719028310	Grey	No	
008	0874_SW013_210422	HDPE (no PTFE)	20 mL	00350719028326	Grey	No	
009	0874_SD016_210422	HDPE Soil Jar	200 mL	00620219019603	Grey	No	
010	0874_SW016_210422	HDPE (no PTFE)	20 mL	00350719028297	Grey	No	
010	0874_SW016_210422	HDPE (no PTFE)	20 mL	00350719028303	Grey	No	
011	0874_SD123_210422	HDPE Soil Jar	200 mL	00620219019705	Grey	No	
012	0874_SW123_210422	HDPE (no PTFE)	20 mL	00350719028256	Grey	No	
012	0874_SW123_210422	HDPE (no PTFE)	20 mL	00350719028289	Grey	No	
013	0874_SD019_210422	HDPE Soil Jar	200 mL	00620219019675	Grey	No	
014	0874_SW019_210422	HDPE (no PTFE)	20 mL	00351219044588	Grey	No	
014	0874_SW019_210422	HDPE (no PTFE)	20 mL	00351219044534	Grey	No	
015	0874_SD010_210422	HDPE Soil Jar	200 mL	00620219019680	Grey	No	
016	0874_SW010_210422	HDPE (no PTFE)	20 mL	00350719028143	Grey	No	
016	0874_SW010_210422	HDPE (no PTFE)	20 mL	00350719028126	Grey	No	

**CHAIN OF CUSTODY**

COC#: 21887

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

017	0874_SD001_210422	HDPE Soil Jar	200 mL	00620219019641	Grey	No	
018	0874_SW001_210422	HDPE (no PTFE)	20 mL	00350719028233	Grey	No	
018	0874_SW001_210422	HDPE (no PTFE)	20 mL	00350719028082	Grey	No	
019	0874_SW132_210422	HDPE (no PTFE)	20 mL	00350719028151	Grey	No	
019	0874_SW132_210422	HDPE (no PTFE)	20 mL	00350719028259	Grey	No	
020	0874_SD132_210422	HDPE Soil Jar	200 mL	00620219019679	Grey	No	
021	0874_SD121_210422	HDPE Soil Jar	200 mL	00621019048952	Grey	No	
022	0874_SW121_210422	HDPE (no PTFE)	20 mL	00350719028299	Grey	No	
022	0874_SW121_210422	HDPE (no PTFE)	20 mL	00350719028307	Grey	No	
023	0874_SW127_210422	HDPE (no PTFE)	20 mL	00350719028321	Grey	No	
023	0874_SW127_210422	HDPE (no PTFE)	20 mL	00350719028319	Grey	No	
024	0874_QC107_210422	HDPE (no PTFE)	20 mL	00350719028135	Grey	No	
024	0874_QC107_210422	HDPE (no PTFE)	20 mL	00350719028111	Grey	No	
025	0874_SD014_210422	HDPE Soil Jar	200 mL	00620719018168	Grey	No	
026	0874_QC108_210422	HDPE Soil Jar	200 mL	00620219019625	Grey	No	
027	0874_SW014_210422	HDPE (no PTFE)	20 mL	00350019152587	Grey	No	
027	0874_SW014_210422	HDPE (no PTFE)	20 mL	00350019152666	Grey	No	
028	0874_SW119_210422	HDPE (no PTFE)	20 mL	00350019147853	Grey	No	
028	0874_SW119_210422	HDPE (no PTFE)	20 mL	00350019147852	Grey	No	
029	0874_SW114_210422	HDPE (no PTFE)	20 mL	00352010057957	Grey	No	
029	0874_SW114_210422	HDPE (no PTFE)	20 mL	00350019152570	Grey	No	
029	0874_SW114_210422	HDPE (no PTFE)	20 mL	00352010057924	Grey	No	
029	0874_SW114_210422	HDPE (no PTFE)	20 mL	00350019152592	Grey	No	
030	0874_SD114_210422	HDPE Soil Jar	200 mL	00620219019637	Grey	No	
031	0874_MW268_210422	HDPE (no PTFE)	20 mL	00352010057849	Grey	No	
031	0874_MW268_210422	HDPE (no PTFE)	20 mL	00352010057847	Grey	No	
031	0874_MW268_210422	HDPE (no PTFE)	20 mL	00352010057936	Grey	No	

**CHAIN OF CUSTODY**

COCH#: 21887

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

031	0874_MW268_210422	HDPE (no PTFE)	20 mL	00352010057882	Grey	No	
032	0874_MW263_210422	HDPE (no PTFE)	20 mL	00352010057913	Grey	No	
032	0874_MW263_210422	HDPE (no PTFE)	20 mL	00350019152714	Grey	No	
033	0874_QC109_210422	HDPE (no PTFE)	20 mL	00352010079505	Grey	No	
033	0874_QC109_210422	HDPE (no PTFE)	20 mL	00352010079526	Grey	No	
034	0874_MW270_210422	HDPE (no PTFE)	20 mL	00352010057918	Grey	No	
034	0874_MW270_210422	HDPE (no PTFE)	20 mL	00350019152586	Grey	No	
034	0874_MW270_210422	HDPE (no PTFE)	20 mL	00352010057912	Grey	No	
034	0874_MW270_210422	HDPE (no PTFE)	20 mL	00350019152613	Grey	No	
035	0874_QC304_210422	HDPE (no PTFE)	20 mL	00352010057837	Grey	No	
035	0874_QC304_210422	HDPE (no PTFE)	20 mL	00350019152693	Grey	No	
035	0874_QC304_210422	HDPE (no PTFE)	20 mL	00350019152621	Grey	No	
035	0874_QC304_210422	HDPE (no PTFE)	20 mL	00352010057881	Grey	No	
036	0874_QC502_210422	HDPE (no PTFE)	20 mL	00352010034503	Grey	No	
036	0874_QC502_210422	HDPE (no PTFE)	20 mL	00352010034690	Grey	No	

Total Bottle Count: ALS: 68, Non ALS: 0



Environmental Division
Brisbane
Work Order Reference
EB2111812



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA50MB Client: AEWm Project Manager: [REDACTED]
 ALS Compass COC Reference: 22003 # Samples: 68 Sampler: [REDACTED]
 Turnaround Requirements: Standard Urgent [REDACTED]

Special Instructions:

~~Date for 0874 QC305-210127 is 27/4/21~~

Dates + times for selected samples on back (Compass glitch)

Custody:

[REDACTED]		Relinquished by:	Received by:
		Date / Time: 30/4/21 1530	Date / Time: 30/4/21 1530
		Date / Time:	Date / Time:

**CHAIN OF CUSTODY**

ALS COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_QC503_210427		27/04/2021 09:16 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_MW211_210427		27/04/2021 09:47 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_MW467_210427		27/04/2021 10:09 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_MW233_210427		27/04/2021 10:41 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
005	0874_QC110_210427		27/04/2021 10:42 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
006	0874_MW252_210427		27/04/2021 11:06 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
007	0874_MW253_210427		27/04/2021 11:34 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_MW301_210427		27/04/2021 12:05 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_MW206_210427		27/04/2021 12:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW205_210427		27/04/2021 12:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_MW204_210427		27/04/2021 01:23 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_MW207_210427		27/04/2021 01:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_MW208_210427		27/04/2021 02:41 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_MW213_210427		27/04/2021 03:02 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
015	0874_MW214_210427		27/04/2021 03:23 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
016	0874_MW215_210427		27/04/2021 03:43 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
017	0874_MW216_210427		27/04/2021 04:07 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
018	0874_MW218_210427		27/04/2021 04:34 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC111_210427		27/04/2021 04:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
020	0874_MW238_210427		27/04/2021 05:55 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_MW231_210428		28/04/2021 06:58 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_MW237_210428		28/04/2021 07:48 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
023	0874_MW114_210428		28/04/2021 08:27 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
024	0874_MW136_210428		28/04/2021 09:23 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
025	0874_QC112_210428		28/04/2021 09:24 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
026	0874_MW265_210428		28/04/2021 09:47 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
027	0874_MW004_210428		28/04/2021 10:03 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COCH#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487 2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:**LABORATORY USE ONLY (Circle)**
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:PROJECT MANAGER:
PRIMARY SAMPLER:CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW241_210428		28/04/2021 10:19 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
029	0874_MW122_210428		28/04/2021 10:56 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
030	0874_MW002_210428		28/04/2021 11:16 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
031	0874_MW135_210428		28/04/2021 11:36 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
032	0874_MW057_210428		28/04/2021 12:37 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
033	0874_MW046_210428		28/04/2021 01:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
034	0874_QC113_210428		28/04/2021 01:36 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
035	0874_MW090_210428		28/04/2021 02:02 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
036	0874_MW081_210428		28/04/2021 02:20 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: High conc

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

 Biohazard info:

CONTACT PH: **SAMPLER MOBILE:**
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_MW054_210428		28/04/2021 02:36 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
038	0874_MW055_210428		28/04/2021 02:48 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
039	0874_QC306_210428		28/04/2021 02:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
040	0874_MW269_210429		29/04/2021 07:45 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
041	0874_MW217_210429		29/04/2021 08:10 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
042	0874_QC114_210429		29/04/2021 08:33 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
043	0874_MW219_210429		29/04/2021 08:50 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
044	0874_MW266_210429		29/04/2021 09:21 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
045	0874_MW267_210429		29/04/2021 09:40 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487 2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_MW261_210429		29/04/2021 10:01 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
047	0874_MW225_210429		29/04/2021 10:26 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
048	0874_MW015_210429		29/04/2021 11:11 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
049	0874_MW021_210429		29/04/2021 11:31 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
050	0874_MW139_210429		29/04/2021 12:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
051	0874_QC115_210429		29/04/2021 12:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
052	0874_MW138_210429		29/04/2021 12:22 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
053	0874_MW109_210429		29/04/2021 12:34 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
054	0874_MW110_210429		29/04/2021 12:47 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: High conc

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]
EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED] **SAMPLER MOBILE:** [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_MW251_210429		29/04/2021 01:09 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
056	0874_MW005_210429		29/04/2021 01:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: High conc
057	0874_MW009_210429		29/04/2021 01:44 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
058	0874_MW247_210429		29/04/2021 02:11 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
059	0874_MW043_210429		29/04/2021 02:39 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
060	0874_MW125_210429		29/04/2021 03:03 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
061	0874_MW038_210429		29/04/2021 03:25 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
062	0874_MW116_210429		29/04/2021 03:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
063	0874_MW126_210429		29/04/2021 04:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_QC305_210427		29/04/2021 05:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
065	0874_QC307_210429		30/04/2021 01:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
066	0874_MW240_210427		30/04/2021 01:36 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
067	0874_MW221_210429		30/04/2021 01:36 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
068	0874_MW016_210429		30/04/2021 01:38 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_QC503_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW211_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW467_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW233_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_QC110_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW252_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW253_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW301_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW206_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW205_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW204_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW207_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW208_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW213_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW214_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016	0874_MW215_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW216_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW218_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_QC111_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW238_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW231_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_MW237_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_MW114_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_MW136_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_QC112_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW265_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_MW004_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW241_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW122_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_MW002_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW135_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

032	0874_MW057_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_MW046_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_QC113_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_MW090_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_MW081_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_MW054_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_MW055_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_QC306_210428	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW269_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_MW217_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_QC114_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_MW219_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_MW266_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_MW267_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_MW261_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_MW225_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

048	0874_MW015_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_MW021_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW139_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_QC115_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_MW138_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW109_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_MW110_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_MW251_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_MW005_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_MW009_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_MW247_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_MW043_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_MW125_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_MW038_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_MW116_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_MW126_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

064	0874_QC305_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_QC307_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_MW240_210427	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW221_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_MW016_210429	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487 2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE: [REDACTED]

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_QC503_210427	HDPE (no PTFE)	20 mL	00352010055418	Grey	No	
001	0874_QC503_210427	HDPE (no PTFE)	20 mL	00352010055372	Grey	No	
002	0874_MW211_210427	HDPE (no PTFE)	20 mL	00352010079390	Grey	No	
002	0874_MW211_210427	HDPE (no PTFE)	20 mL	00352010079456	Grey	No	
003	0874_MW467_210427	HDPE (no PTFE)	20 mL	00352010079333	Grey	No	
003	0874_MW467_210427	HDPE (no PTFE)	20 mL	00352010079543	Grey	No	
003	0874_MW467_210427	HDPE (no PTFE)	20 mL	00350019152732	Grey	No	
003	0874_MW467_210427	HDPE (no PTFE)	20 mL	00352010057933	Grey	No	
004	0874_MW233_210427	HDPE (no PTFE)	20 mL	00350019152605	Grey	No	
004	0874_MW233_210427	HDPE (no PTFE)	20 mL	00350019152733	Grey	No	
005	0874_QC110_210427	HDPE (no PTFE)	20 mL	00352010057843	Grey	No	
005	0874_QC110_210427	HDPE (no PTFE)	20 mL	00350019152568	Grey	No	
006	0874_MW252_210427	HDPE (no PTFE)	20 mL	00352010057850	Grey	No	
006	0874_MW252_210427	HDPE (no PTFE)	20 mL	00352010079312	Grey	No	
006	0874_MW252_210427	HDPE (no PTFE)	20 mL	00352010057848	Grey	No	
006	0874_MW252_210427	HDPE (no PTFE)	20 mL	00352010079562	Grey	No	
007	0874_MW253_210427	HDPE (no PTFE)	20 mL	00352010079388	Grey	No	
007	0874_MW253_210427	HDPE (no PTFE)	20 mL	00352010079400	Grey	No	
008	0874_MW301_210427	HDPE (no PTFE)	20 mL	00352010057860	Grey	No	
008	0874_MW301_210427	HDPE (no PTFE)	20 mL	00350019152725	Grey	No	
009	0874_MW206_210427	HDPE (no PTFE)	20 mL	00352010079542	Grey	No	
009	0874_MW206_210427	HDPE (no PTFE)	20 mL	00352010079363	Grey	No	
010	0874_MW205_210427	HDPE (no PTFE)	20 mL	00352010079491	Grey	No	
010	0874_MW205_210427	HDPE (no PTFE)	20 mL	00352010079329	Grey	No	
011	0874_MW204_210427	HDPE (no PTFE)	20 mL	00352010057866	Grey	No	
011	0874_MW204_210427	HDPE (no PTFE)	20 mL	00350019152711	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

012	0874_MW207_210427	HDPE (no PTFE)	20 mL	00352010079424	Grey	No	
012	0874_MW207_210427	HDPE (no PTFE)	20 mL	00352010079273	Grey	No	
013	0874_MW208_210427	HDPE (no PTFE)	20 mL	00352010079433	Grey	No	
013	0874_MW208_210427	HDPE (no PTFE)	20 mL	00352010079552	Grey	No	
014	0874_MW213_210427	HDPE (no PTFE)	20 mL	00350019152641	Grey	No	
014	0874_MW213_210427	HDPE (no PTFE)	20 mL	00350019152631	Grey	No	
014	0874_MW213_210427	HDPE (no PTFE)	20 mL	00352010057903	Grey	No	
014	0874_MW213_210427	HDPE (no PTFE)	20 mL	00352010057833	Grey	No	
015	0874_MW214_210427	HDPE (no PTFE)	20 mL	00350019152722	Grey	No	
015	0874_MW214_210427	HDPE (no PTFE)	20 mL	00350019152598	Grey	No	
016	0874_MW215_210427	HDPE (no PTFE)	20 mL	00352010079482	Grey	No	
016	0874_MW215_210427	HDPE (no PTFE)	20 mL	00352010079490	Grey	No	
017	0874_MW216_210427	HDPE (no PTFE)	20 mL	00352010079553	Grey	No	
017	0874_MW216_210427	HDPE (no PTFE)	20 mL	00352010079384	Grey	No	
018	0874_MW218_210427	HDPE (no PTFE)	20 mL	00352010079558	Grey	No	
018	0874_MW218_210427	HDPE (no PTFE)	20 mL	00352010079537	Grey	No	
019	0874_QC111_210427	HDPE (no PTFE)	20 mL	00352010079541	Grey	No	
019	0874_QC111_210427	HDPE (no PTFE)	20 mL	00352010079467	Grey	No	
020	0874_MW238_210427	HDPE (no PTFE)	20 mL	00350019152703	Grey	No	
020	0874_MW238_210427	HDPE (no PTFE)	20 mL	00352010057959	Grey	No	
021	0874_MW231_210428	HDPE (no PTFE)	20 mL	00350019152667	Grey	No	
021	0874_MW231_210428	HDPE (no PTFE)	20 mL	00352010057840	Grey	No	
022	0874_MW237_210428	HDPE (no PTFE)	20 mL	00350019152645	Grey	No	
022	0874_MW237_210428	HDPE (no PTFE)	20 mL	00352010057845	Grey	No	
022	0874_MW237_210428	HDPE (no PTFE)	20 mL	00350019152634	Grey	No	
022	0874_MW237_210428	HDPE (no PTFE)	20 mL	00350019152597	Grey	No	
023	0874_MW114_210428	HDPE (no PTFE)	20 mL	00350019152614	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

023	0874_MW114_210428	HDPE (no PTFE)	20 mL	00350019152654	Grey	No	
024	0874_MW136_210428	HDPE (no PTFE)	20 mL	00352010057904	Grey	No	
024	0874_MW136_210428	HDPE (no PTFE)	20 mL	00350019152639	Grey	No	
025	0874_QC112_210428	HDPE (no PTFE)	20 mL	00352010057893	Grey	No	
025	0874_QC112_210428	HDPE (no PTFE)	20 mL	00352010057934	Grey	No	
026	0874_MW265_210428	HDPE (no PTFE)	20 mL	00352010057835	Grey	No	
026	0874_MW265_210428	HDPE (no PTFE)	20 mL	00350019152695	Grey	No	
027	0874_MW004_210428	HDPE (no PTFE)	20 mL	00350019152590	Grey	No	
027	0874_MW004_210428	HDPE (no PTFE)	20 mL	00352010057856	Grey	No	
028	0874_MW241_210428	HDPE (no PTFE)	20 mL	00350019152583	Grey	No	
028	0874_MW241_210428	HDPE (no PTFE)	20 mL	00352010057900	Grey	No	
029	0874_MW122_210428	HDPE (no PTFE)	20 mL	00350019152623	Grey	No	
029	0874_MW122_210428	HDPE (no PTFE)	20 mL	00350019152689	Grey	No	
030	0874_MW002_210428	HDPE (no PTFE)	20 mL	00352010057930	Grey	No	
030	0874_MW002_210428	HDPE (no PTFE)	20 mL	00350019152709	Grey	No	
031	0874_MW135_210428	HDPE (no PTFE)	20 mL	00350019152690	Grey	No	
031	0874_MW135_210428	HDPE (no PTFE)	20 mL	00352010057902	Grey	No	
031	0874_MW135_210428	HDPE (no PTFE)	20 mL	00350019152724	Grey	No	
031	0874_MW135_210428	HDPE (no PTFE)	20 mL	00352010057876	Grey	No	
032	0874_MW057_210428	HDPE (no PTFE)	20 mL	00350019152603	Grey	No	
032	0874_MW057_210428	HDPE (no PTFE)	20 mL	00350019152591	Grey	No	
033	0874_MW046_210428	HDPE (no PTFE)	20 mL	00352010079434	Grey	No	
033	0874_MW046_210428	HDPE (no PTFE)	20 mL	00352010079502	Grey	No	
034	0874_QC113_210428	HDPE (no PTFE)	20 mL	00352010057896	Grey	No	
034	0874_QC113_210428	HDPE (no PTFE)	20 mL	00352010057949	Grey	No	
035	0874_MW090_210428	HDPE (no PTFE)	20 mL	00350019152608	Grey	No	
035	0874_MW090_210428	HDPE (no PTFE)	20 mL	00350019152571	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

035	0874_MW090_210428	HDPE (no PTFE)	20 mL	00350019152610	Grey	No	
035	0874_MW090_210428	HDPE (no PTFE)	20 mL	00352010057925	Grey	No	
036	0874_MW081_210428	HDPE (no PTFE)	20 mL	00352010057911	Grey	No	
036	0874_MW081_210428	HDPE (no PTFE)	20 mL	00352010057891	Grey	No	
036	0874_MW081_210428	HDPE (no PTFE)	20 mL	00352010057862	Grey	No	
036	0874_MW081_210428	HDPE (no PTFE)	20 mL	00350019152698	Grey	No	
037	0874_MW054_210428	HDPE (no PTFE)	20 mL	00352010079459	Grey	No	
037	0874_MW054_210428	HDPE (no PTFE)	20 mL	00352010079287	Grey	No	
038	0874_MW055_210428	HDPE (no PTFE)	20 mL	00350019152650	Grey	No	
038	0874_MW055_210428	HDPE (no PTFE)	20 mL	00350019152663	Grey	No	
039	0874_QC306_210428	HDPE (no PTFE)	20 mL	00352010057839	Grey	No	
039	0874_QC306_210428	HDPE (no PTFE)	20 mL	00350019152643	Grey	No	
040	0874_MW269_210429	HDPE (no PTFE)	20 mL	00352010057863	Grey	No	
040	0874_MW269_210429	HDPE (no PTFE)	20 mL	00350019152627	Grey	No	
041	0874_MW217_210429	HDPE (no PTFE)	20 mL	00352010057889	Grey	No	
041	0874_MW217_210429	HDPE (no PTFE)	20 mL	00350019152617	Grey	No	
042	0874_QC114_210429	HDPE (no PTFE)	20 mL	00350019152701	Grey	No	
042	0874_QC114_210429	HDPE (no PTFE)	20 mL	00350019152642	Grey	No	
043	0874_MW219_210429	HDPE (no PTFE)	20 mL	00350019152604	Grey	No	
043	0874_MW219_210429	HDPE (no PTFE)	20 mL	00350019152566	Grey	No	
043	0874_MW219_210429	HDPE (no PTFE)	20 mL	00350019152659	Grey	No	
043	0874_MW219_210429	HDPE (no PTFE)	20 mL	00350019152672	Grey	No	
044	0874_MW266_210429	HDPE (no PTFE)	20 mL	00352010057853	Grey	No	
044	0874_MW266_210429	HDPE (no PTFE)	20 mL	00352010057937	Grey	No	
045	0874_MW267_210429	HDPE (no PTFE)	20 mL	00352010057951	Grey	No	
045	0874_MW267_210429	HDPE (no PTFE)	20 mL	00350019152712	Grey	No	
046	0874_MW261_210429	HDPE (no PTFE)	20 mL	00350019152680	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

046	0874_MW261_210429	HDPE (no PTFE)	20 mL	00350019152622	Grey	No	
047	0874_MW225_210429	HDPE (no PTFE)	20 mL	00352010057897	Grey	No	
047	0874_MW225_210429	HDPE (no PTFE)	20 mL	00350019152691	Grey	No	
048	0874_MW015_210429	HDPE (no PTFE)	20 mL	00352010057890	Grey	No	
048	0874_MW015_210429	HDPE (no PTFE)	20 mL	00352010057922	Grey	No	
049	0874_MW021_210429	HDPE (no PTFE)	20 mL	00352010057943	Grey	No	
049	0874_MW021_210429	HDPE (no PTFE)	20 mL	00350019152684	Grey	No	
050	0874_MW139_210429	HDPE (no PTFE)	20 mL	00350019152686	Grey	No	
050	0874_MW139_210429	HDPE (no PTFE)	20 mL	00352010057915	Grey	No	
051	0874_QC115_210429	HDPE (no PTFE)	20 mL	00350019152648	Grey	No	
051	0874_QC115_210429	HDPE (no PTFE)	20 mL	00352010057940	Grey	No	
052	0874_MW138_210429	HDPE (no PTFE)	20 mL	00352010057886	Grey	No	
052	0874_MW138_210429	HDPE (no PTFE)	20 mL	00350019152600	Grey	No	
053	0874_MW109_210429	HDPE (no PTFE)	20 mL	00352010057895	Grey	No	
053	0874_MW109_210429	HDPE (no PTFE)	20 mL	00352010057901	Grey	No	
054	0874_MW110_210429	HDPE (no PTFE)	20 mL	00350019152696	Grey	No	
054	0874_MW110_210429	HDPE (no PTFE)	20 mL	00350019152620	Grey	No	
054	0874_MW110_210429	HDPE (no PTFE)	20 mL	00352010057854	Grey	No	
054	0874_MW110_210429	HDPE (no PTFE)	20 mL	00352010057879	Grey	No	
055	0874_MW251_210429	HDPE (no PTFE)	20 mL	00350019152653	Grey	No	
055	0874_MW251_210429	HDPE (no PTFE)	20 mL	00350019152585	Grey	No	
055	0874_MW251_210429	HDPE (no PTFE)	20 mL	00350019152580	Grey	No	
055	0874_MW251_210429	HDPE (no PTFE)	20 mL	00352010057888	Grey	No	
056	0874_MW005_210429	HDPE (no PTFE)	20 mL	00352010057844	Grey	No	
056	0874_MW005_210429	HDPE (no PTFE)	20 mL	00350019152717	Grey	No	
057	0874_MW009_210429	HDPE (no PTFE)	20 mL	00350019152625	Grey	No	
057	0874_MW009_210429	HDPE (no PTFE)	20 mL	00350019152706	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

058	0874_MW247_210429	HDPE (no PTFE)	20 mL	00350019152572	Grey	No	
058	0874_MW247_210429	HDPE (no PTFE)	20 mL	00350019152662	Grey	No	
059	0874_MW043_210429	HDPE (no PTFE)	20 mL	00350019152609	Grey	No	
059	0874_MW043_210429	HDPE (no PTFE)	20 mL	00350019152646	Grey	No	
059	0874_MW043_210429	HDPE (no PTFE)	20 mL	00350019152647	Grey	No	
059	0874_MW043_210429	HDPE (no PTFE)	20 mL	00350019152636	Grey	No	
060	0874_MW125_210429	HDPE (no PTFE)	20 mL	00352010057872	Grey	No	
060	0874_MW125_210429	HDPE (no PTFE)	20 mL	00352010057846	Grey	No	
060	0874_MW125_210429	HDPE (no PTFE)	20 mL	00350019152673	Grey	No	
060	0874_MW125_210429	HDPE (no PTFE)	20 mL	00350019152633	Grey	No	
061	0874_MW038_210429	HDPE (no PTFE)	20 mL	00352010057868	Grey	No	
061	0874_MW038_210429	HDPE (no PTFE)	20 mL	00352010057842	Grey	No	
061	0874_MW038_210429	HDPE (no PTFE)	20 mL	00352010057898	Grey	No	
061	0874_MW038_210429	HDPE (no PTFE)	20 mL	00352010057931	Grey	No	
062	0874_MW116_210429	HDPE (no PTFE)	20 mL	00350019152626	Grey	No	
062	0874_MW116_210429	HDPE (no PTFE)	20 mL	00350019152710	Grey	No	
063	0874_MW126_210429	HDPE (no PTFE)	20 mL	00352010057954	Grey	No	
063	0874_MW126_210429	HDPE (no PTFE)	20 mL	00352010057950	Grey	No	
064	0874_QC305_210427	HDPE (no PTFE)	20 mL	00352010057899	Grey	No	
064	0874_QC305_210427	HDPE (no PTFE)	20 mL	00352010057864	Grey	No	
065	0874_QC307_210429	HDPE (no PTFE)	20 mL	00350019152708	Grey	No	
065	0874_QC307_210429	HDPE (no PTFE)	20 mL	00350019152589	Grey	No	
066	0874_MW240_210427	HDPE (no PTFE)	20 mL	00352010057928	Grey	No	
066	0874_MW240_210427	HDPE (no PTFE)	20 mL	00350019152567	Grey	No	
067	0874_MW221_210429	HDPE (no PTFE)	20 mL	00350019152687	Grey	No	
067	0874_MW221_210429	HDPE (no PTFE)	20 mL	00352010057939	Grey	No	
068	0874_MW016_210429	HDPE (no PTFE)	20 mL	00352010079498	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22003 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

068

0874_MW016_210429

HDPE (no PTFE)

20 mL

00352010079309

Grey


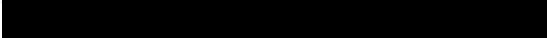
No

Total Bottle Count: ALS: 162, Non ALS: 0

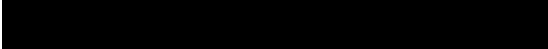
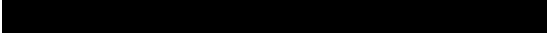


Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PPASOMP Client: AELOM

Project Manager: 
Phone: 



ALS Compass COC Reference: 22193 # Samples: 28

Sampler: 
Phone: 

Turnaround Requirements: Standard Urgent _____

Special Instructions:

Custody:

Relinquished by: 	Received by: 	Relinquished by:	Received by:
Date / Time: 30/4/21 1530	Date / Time: 30/4/21 1530	Date / Time:	Date / Time:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW239_210430		30/04/2021 07:19 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_MW034_210430		30/04/2021 07:55 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_MW033_210430		30/04/2021 08:12 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_MW120_210430		30/04/2021 08:35 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
005	0874_QC116_210430		30/04/2021 08:36 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
006	0874_MW026_210430		30/04/2021 08:53 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_MW223_210430		30/04/2021 09:11 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_MW063_210430		30/04/2021 09:38 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_MW061_210430		30/04/2021 09:56 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 22193 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001**SAMPLE DETAILS****ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC504_210430		30/04/2021 09:46 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_QC117_210430		30/04/2021 09:57 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_MW232_210430		30/04/2021 10:23 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_MW224_210430		30/04/2021 10:44 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_MW300_210430		30/04/2021 10:26 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
015	0874_MW243_210430		30/04/2021 11:16 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_MW246_210430		30/04/2021 11:42 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_MW245_210430		30/04/2021 11:57 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
018	0874_MW222_210430		30/04/2021 11:56 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER:
 PRIMARY SAMPLER:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW242_210430		30/04/2021 12:22 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		
020	0874_MW112_210430		30/04/2021 12:51 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_MW220_210430		30/04/2021 12:21 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_QC308_210430		30/04/2021 01:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
023	0874_MW227_210430		30/04/2021 02:12 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
024	0874_MW470_210430		30/04/2021 01:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
025	0874_MW226_210430		30/04/2021 02:26 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
026	0874_MW228_210430		30/04/2021 02:42 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
027	0874_QC309_210430		30/04/2021 02:56 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW229_210430		30/04/2021 02:57 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW239_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW034_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW033_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW120_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_QC116_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW026_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW223_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW063_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW061_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC504_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_QC117_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW232_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW224_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW300_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW243_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

ALS COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO:				
016	0874_MW246_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW245_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW222_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW242_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW112_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW220_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC308_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_MW227_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_MW470_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_MW226_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW228_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_QC309_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW229_210430	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW239_210430	HDPE (no PTFE)	20 mL	00352010057834	Grey	No	
001	0874_MW239_210430	HDPE (no PTFE)	20 mL	00350019152681	Grey	No	
002	0874_MW034_210430	HDPE (no PTFE)	20 mL	00350019152575	Grey	No	
002	0874_MW034_210430	HDPE (no PTFE)	20 mL	00350019152716	Grey	No	
003	0874_MW033_210430	HDPE (no PTFE)	20 mL	00352010057871	Grey	No	
003	0874_MW033_210430	HDPE (no PTFE)	20 mL	00350019152602	Grey	No	
003	0874_MW033_210430	HDPE (no PTFE)	20 mL	00350019152676	Grey	No	
003	0874_MW033_210430	HDPE (no PTFE)	20 mL	00350019152699	Grey	No	
004	0874_MW120_210430	HDPE (no PTFE)	20 mL	00352010057916	Grey	No	
004	0874_MW120_210430	HDPE (no PTFE)	20 mL	00352010057935	Grey	No	
005	0874_QC116_210430	HDPE (no PTFE)	20 mL	00350019152612	Grey	No	
005	0874_QC116_210430	HDPE (no PTFE)	20 mL	00350019152593	Grey	No	
006	0874_MW026_210430	HDPE (no PTFE)	20 mL	00352010057870	Grey	No	
006	0874_MW026_210430	HDPE (no PTFE)	20 mL	00350019152635	Grey	No	
007	0874_MW223_210430	HDPE (no PTFE)	20 mL	00352010057952	Grey	No	
007	0874_MW223_210430	HDPE (no PTFE)	20 mL	00352010057887	Grey	No	
007	0874_MW223_210430	HDPE (no PTFE)	20 mL	00352010057917	Grey	No	
007	0874_MW223_210430	HDPE (no PTFE)	20 mL	00350019152599	Grey	No	
008	0874_MW063_210430	HDPE (no PTFE)	20 mL	00352010057926	Grey	No	
008	0874_MW063_210430	HDPE (no PTFE)	20 mL	00350019152649	Grey	No	
009	0874_MW061_210430	HDPE (no PTFE)	20 mL	00352010057858	Grey	No	
009	0874_MW061_210430	HDPE (no PTFE)	20 mL	00350019152577	Grey	No	
010	0874_QC504_210430	HDPE (no PTFE)	20 mL	00352010034645	Grey	No	
010	0874_QC504_210430	HDPE (no PTFE)	20 mL	00352010055318	Grey	No	
011	0874_QC117_210430	HDPE (no PTFE)	20 mL	00350019152624	Grey	No	
011	0874_QC117_210430	HDPE (no PTFE)	20 mL	00352010057907	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22193 ALS Laboratory: EB Brisbane

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

012	0874_MW232_210430	HDPE (no PTFE)	20 mL	00352010057885	Grey	No	
012	0874_MW232_210430	HDPE (no PTFE)	20 mL	00352010057914	Grey	No	
012	0874_MW232_210430	HDPE (no PTFE)	20 mL	00350019152652	Grey	No	
012	0874_MW232_210430	HDPE (no PTFE)	20 mL	00350019152675	Grey	No	
013	0874_MW224_210430	HDPE (no PTFE)	20 mL	00351219044688	Grey	No	
013	0874_MW224_210430	HDPE (no PTFE)	20 mL	00351219044722	Grey	No	
014	0874_MW300_210430	HDPE (no PTFE)	20 mL	00352010079564	Grey	No	
014	0874_MW300_210430	HDPE (no PTFE)	20 mL	00352010079305	Grey	No	
015	0874_MW243_210430	HDPE (no PTFE)	20 mL	00351219044680	Grey	No	
015	0874_MW243_210430	HDPE (no PTFE)	20 mL	00351219044595	Grey	No	
015	0874_MW243_210430	HDPE (no PTFE)	20 mL	00351219044565	Grey	No	
015	0874_MW243_210430	HDPE (no PTFE)	20 mL	00351219044632	Grey	No	
016	0874_MW246_210430	HDPE (no PTFE)	20 mL	00351219044475	Grey	No	
016	0874_MW246_210430	HDPE (no PTFE)	20 mL	00351219044623	Grey	No	
016	0874_MW246_210430	HDPE (no PTFE)	20 mL	00351219044498	Grey	No	
016	0874_MW246_210430	HDPE (no PTFE)	20 mL	00351219044467	Grey	No	
017	0874_MW245_210430	HDPE (no PTFE)	20 mL	00351219044527	Grey	No	
017	0874_MW245_210430	HDPE (no PTFE)	20 mL	00351219044508	Grey	No	
018	0874_MW222_210430	HDPE (no PTFE)	20 mL	00352010059608	Grey	No	
018	0874_MW222_210430	HDPE (no PTFE)	20 mL	00352010059584	Grey	No	
019	0874_MW242_210430	HDPE (no PTFE)	20 mL	00350019152702	Grey	No	
019	0874_MW242_210430	HDPE (no PTFE)	20 mL	00350019152657	Grey	No	
019	0874_MW242_210430	HDPE (no PTFE)	20 mL	00350019152683	Grey	No	
019	0874_MW242_210430	HDPE (no PTFE)	20 mL	00352010057932	Grey	No	
020	0874_MW112_210430	HDPE (no PTFE)	20 mL	00350019152638	Grey	No	
020	0874_MW112_210430	HDPE (no PTFE)	20 mL	00350019152692	Grey	No	
021	0874_MW220_210430	HDPE (no PTFE)	20 mL	00350019036404	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22193 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

021	0874_MW226_210430	HDPE (no PTFE)	20 mL	00350019036222	Grey	No	
022	0874_QC308_210430	HDPE (no PTFE)	20 mL	00352010057905	Grey	No	
022	0874_QC308_210430	HDPE (no PTFE)	20 mL	00352010057875	Grey	No	
023	0874_MW227_210430	HDPE (no PTFE)	20 mL	00350019152651	Grey	No	
023	0874_MW227_210430	HDPE (no PTFE)	20 mL	00350019152660	Grey	No	
024	0874_MW470_210430	HDPE (no PTFE)	20 mL	00350019036275	Grey	No	
024	0874_MW470_210430	HDPE (no PTFE)	20 mL	00350019036448	Grey	No	
025	0874_MW226_210430	HDPE (no PTFE)	20 mL	00352010057955	Grey	No	
025	0874_MW226_210430	HDPE (no PTFE)	20 mL	00350019152728	Grey	No	
026	0874_MW228_210430	HDPE (no PTFE)	20 mL	00350019152661	Grey	No	
026	0874_MW228_210430	HDPE (no PTFE)	20 mL	00350019152616	Grey	No	
027	0874_QC309_210430	HDPE (no PTFE)	20 mL	00352010057884	Grey	No	
027	0874_QC309_210430	HDPE (no PTFE)	20 mL	00350019152658	Grey	No	
028	0874_MW229_210430	HDPE (no PTFE)	20 mL	00352010059372	Grey	No	
028	0874_MW229_210430	HDPE (no PTFE)	20 mL	00352010059519	Grey	No	

Total Bottle Count: ALS: 68, Non ALS: 0



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Brisbane
Work Order Reference
EB2112383



Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PPASOMP Client: AECOM Project Manager: _____
Phone: _____

ALS Compass COC Reference: 22409 # Samples: 12 Sampler: _____
Phone: _____

Turnaround Requirements: Standard Urgent

Special Instructions:

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?			°C

Custody:

Date / Time: <u>7/5/21</u> <u>09:00</u>	Date / Time: <u>7/5/21</u> <u>9:00am</u>	Date / Time: <u>10/5/21</u> <u>4pm</u>	Date / Time: <u>11-05-21</u> <u>08:35</u>

**CHAIN OF CUSTODY**

COC#: 22409 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW013_210506		06/05/2021 09:33 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
002	0874_QC118_210506		06/05/2021 09:34 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
003	0874_MW248_210506		06/05/2021 10:14 AM	Water	ALS: 6 Non ALS: 0	No		Partial 1/4		Extra vol for lab QC
004	0874_MW056_210506		06/05/2021 10:47 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0974_SW113_210506		06/05/2021 11:35 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
006	0874_QC119_210506		06/05/2021 11:36 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_SD113_210506		06/05/2021 11:37 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
008	0874_MW201_210506		06/05/2021 03:09 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
009	0874_MW202_210506		06/05/2021 03:39 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

CHAIN OF CUSTODY
 (ALS) COC#: 22409 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW203_210506		06/05/2021 04:32 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
011	0874_QC505_210506		06/05/2021 04:38 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_QC309_210506		06/05/2021 04:39 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 22409 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER:
 PRIMARY SAMPLER:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW013_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC118_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW248_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW056_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0974_SW113_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_QC119_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SD113_210506	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
008	0874_MW201_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW202_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW203_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_QC505_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_QC309_210506	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW013_210506	HDPE (no PTFE)	20 mL	00352010057877	Grey	No	
001	0874_MW013_210506	HDPE (no PTFE)	20 mL	00350019152665	Grey	No	
002	0874_QC118_210506	HDPE (no PTFE)	20 mL	00352010059644	Grey	No	
002	0874_QC118_210506	HDPE (no PTFE)	20 mL	00352010059531	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00350019152679	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00350019152573	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00350019152700	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00352010057859	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00350019152607	Grey	No	
003	0874_MW248_210506	HDPE (no PTFE)	20 mL	00352010057867	Grey	No	
004	0874_MW056_210506	HDPE (no PTFE)	20 mL	00352010057942	Grey	No	
004	0874_MW056_210506	HDPE (no PTFE)	20 mL	00352010057908	Grey	No	
005	0974_SW113_210506	HDPE (no PTFE)	20 mL	00352010057946	Grey	No	
005	0974_SW113_210506	HDPE (no PTFE)	20 mL	00350019152630	Grey	No	
006	0874_QC119_210506	HDPE (no PTFE)	20 mL	00352010057838	Grey	No	
006	0874_QC119_210506	HDPE (no PTFE)	20 mL	00350019152726	Grey	No	
007	0874_SD113_210506	HDPE Soil Jar	200 mL	00620719071633	Grey	No	
008	0874_MW201_210506	HDPE (no PTFE)	20 mL	00352010057878	Grey	No	
008	0874_MW201_210506	HDPE (no PTFE)	20 mL	00350019152721	Grey	No	
009	0874_MW202_210506	HDPE (no PTFE)	20 mL	00350019152579	Grey	No	
009	0874_MW202_210506	HDPE (no PTFE)	20 mL	00350019152578	Grey	No	
010	0874_MW203_210506	HDPE (no PTFE)	20 mL	00352010057938	Grey	No	
010	0874_MW203_210506	HDPE (no PTFE)	20 mL	00350019152595	Grey	No	
011	0874_QC505_210506	HDPE (no PTFE)	20 mL	00352010055392	Grey	No	
011	0874_QC505_210506	HDPE (no PTFE)	20 mL	00352010034722	Grey	No	
012	0874_QC309_210506	HDPE (no PTFE)	20 mL	00350019152705	Grey	No	

**CHAIN OF CUSTODY**

COC#: 22409 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

012	0874_QC309_210506	HDPE (no PTFE)	20 mL	00352010057919	Grey	No	
-----	-------------------	----------------	-------	----------------	------	----	--

Total Bottle Count: ALS: 27, Non ALS: 0



Environmental Division
Brisbane

Work Order Reference
EB2114819



Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PEASOMP Client: AELM

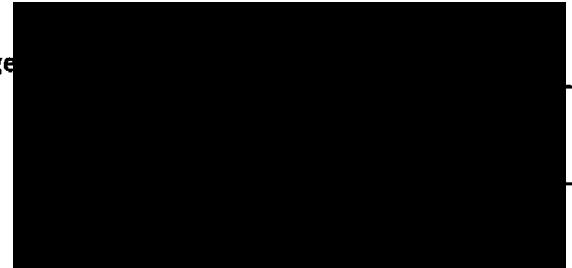
Project Manager

Phone:

ALS Compass COC Reference: 23442 # Samples: 3

Sampler:

Phone:

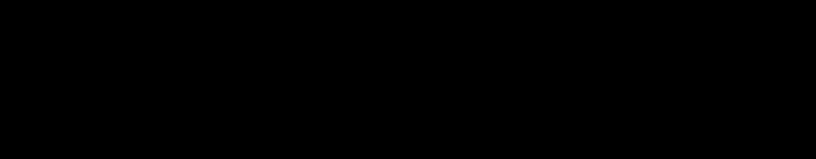


Turnaround Requirements: Standard Urgent

Special Instructions:

Special Instructions area (empty)

Custody:

<p>R</p> 	<p>Relinquished by:</p>	<p>Received by:</p>	
<p>Date / Time: 28/5/21 09:10</p>	<p>Date / Time: 28/5/21 9:15am</p>	<p>Date / Time:</p>	<p>Date / Time:</p>

**CHAIN OF CUSTODY**

COC#: 23442 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS : 0 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW471_210528		28/05/2021 08:43 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Extra vol lab QC
002	0874_QC506_210528		28/05/2021 08:44 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_QC310_210528		28/05/2021 08:43 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Extra vol lab QC

**CHAIN OF CUSTODY**

COC#: 23442 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 TURNAROUND REQUIREMENTS : 0 Days
 Biohazard info:

 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW471_210528	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC506_210528	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_QC310_210528	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 23442 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 0 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER:
 PRIMARY SAMPLER:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW471_210528	HDPE (no PTFE)	20 mL	00351219044452	Grey	No	
001	0874_MW471_210528	HDPE (no PTFE)	20 mL	00351219044438	Grey	No	
001	0874_MW471_210528	HDPE (no PTFE)	20 mL	00350019108464	Grey	No	
001	0874_MW471_210528	HDPE (no PTFE)	20 mL	00350019108449	Grey	No	
002	0874_QC506_210528	HDPE (no PTFE)	20 mL	00352010034511	Grey	No	
002	0874_QC506_210528	HDPE (no PTFE)	20 mL	00352010034482	Grey	No	
003	0874_QC310_210528	HDPE (no PTFE)	20 mL	00351219044459	Grey	No	
003	0874_QC310_210528	HDPE (no PTFE)	20 mL	00351219044505	Grey	No	
003	0874_QC310_210528	HDPE (no PTFE)	20 mL	00351219044543	Grey	No	
003	0874_QC310_210528	HDPE (no PTFE)	20 mL	00351219044691	Grey	No	

Total Bottle Count: ALS: 10, Non ALS: 0

Appendix E

Laboratory Analytical
Certificates and QA/QC
Reports



CERTIFICATE OF ANALYSIS

Work Order : EB2110367

Page : 1 of 19

Amendment : 1

Client : AECOM Australia Pty Ltd

Laboratory : Environmental Division Brisbane

Contact : [Redacted]
Address : [Redacted]

Contact : [Redacted]
Address : [Redacted]

Telephone : ----

Telephone : [Redacted]

Project : QLD_0874_PFASOMP

Date Samples Received : 16-Apr-2021 05:25

Order number : 60612487_2.1

Date Analysis Commenced : 19-Apr-2021

C-O-C number : 21519

Issue Date : 18-May-2021 14:08

Sampler : [Redacted]

Site : QLD_0874

Quote number : TV/007/21 - Compass

No. of samples received : 35

No. of samples analysed : 35



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories

Position

Accreditation Category

[Redacted]

Senior Inorganic Chemist
Assistant Laboratory Manager

Brisbane Inorganics, Stafford, QLD
Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution prior to analysis due to matrix interferences. LOR values have been adjusted accordingly.
- Amendment (18/05/2021): This report has been amended as a result of a request to change sample identification number (ID) for EB2110367-018. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD021_210415	0874_SD017_210415	0874_QC101_210415	0874_SD205_210415	0874_SD202_210415
Sampling date / time				15-Apr-2021 16:45	15-Apr-2021 17:10	15-Apr-2021 10:45	15-Apr-2021 19:23	15-Apr-2021 10:45	
Compound	CAS Number	LOR	Unit	EB2110367-012	EB2110367-013	EB2110367-014	EB2110367-015	EB2110367-016	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	17.5	36.4	34.6	17.0	30.6	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.0002	0.0009	0.0006	0.0008	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD021_210415	0874_SD017_210415	0874_QC101_210415	0874_SD205_210415	0874_SD202_210415
Sampling date / time				15-Apr-2021 16:45	15-Apr-2021 17:10	15-Apr-2021 10:45	15-Apr-2021 19:23	15-Apr-2021 10:45	
Compound	CAS Number	LOR	Unit	EB2110367-012	EB2110367-013	EB2110367-014	EB2110367-015	EB2110367-016	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	0.0002	0.0009	0.0006	0.0008	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.0002	0.0009	0.0006	0.0008	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	0.0002	0.0009	0.0006	0.0008	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.5	95.0	92.0	120	96.0	
13C8-PFOA	----	0.0002	%	97.0	94.0	85.0	124	96.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD206_210415	0874_SD203_210415	0874_SD120_210415	0874_SD207_210415	0874_SD204_210415
Sampling date / time				15-Apr-2021 12:20	15-Apr-2021 13:30	15-Apr-2021 15:57	15-Apr-2021 12:55	15-Apr-2021 14:00	
Compound	CAS Number	LOR	Unit	EB2110367-017	EB2110367-018	EB2110367-019	EB2110367-020	EB2110367-021	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	33.9	32.9	17.8	31.9	31.1	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0030	0.0007	<0.0002	0.0007	0.0003	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD206_210415	0874_SD203_210415	0874_SD120_210415	0874_SD207_210415	0874_SD204_210415
Sampling date / time				15-Apr-2021 12:20	15-Apr-2021 13:30	15-Apr-2021 15:57	15-Apr-2021 12:55	15-Apr-2021 14:00	
Compound	CAS Number	LOR	Unit	EB2110367-017	EB2110367-018	EB2110367-019	EB2110367-020	EB2110367-021	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0030	0.0007	<0.0002	0.0007	0.0003	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0030	0.0007	<0.0002	0.0007	0.0003	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0030	0.0007	<0.0002	0.0007	0.0003	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	96.0	89.5	92.5	89.5	92.0	
13C8-PFOA	----	0.0002	%	93.0	97.0	92.0	96.5	95.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_210416	0874_SD118_210416	0874_SD115_210416	0874_SD210_210416	0874_SD112_210416
Sampling date / time				16-Apr-2021 08:28	16-Apr-2021 09:21	16-Apr-2021 09:45	16-Apr-2021 12:21	16-Apr-2021 14:01	
Compound	CAS Number	LOR	Unit	EB2110367-024	EB2110367-025	EB2110367-028	EB2110367-030	EB2110367-032	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	60.3	25.2	48.7	33.2	23.6	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0015	0.0004	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0012	0.0005	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0100	0.0027	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0015	0.0003	0.0009	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.139	0.0185	0.0123	0.0004	0.0012	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0024	0.0004	0.0003	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.005	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0010	0.0003	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0029	0.0011	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0010	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0021	0.0004	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0014	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_210416	0874_SD118_210416	0874_SD115_210416	0874_SD210_210416	0874_SD112_210416
Sampling date / time				16-Apr-2021 08:28	16-Apr-2021 09:21	16-Apr-2021 09:45	16-Apr-2021 12:21	16-Apr-2021 14:01	
Compound	CAS Number	LOR	Unit	EB2110367-024	EB2110367-025	EB2110367-028	EB2110367-030	EB2110367-032	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0010	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0010	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.162	0.0248	0.0135	0.0004	0.0012	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.149	0.0212	0.0123	0.0004	0.0012	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.156	0.0236	0.0123	0.0004	0.0012	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	85.0	110	90.5	93.0	79.0	
13C8-PFOA	----	0.0002	%	80.0	110	93.5	93.0	83.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_SD131_210416	----	----	----	----
		Sampling date / time		16-Apr-2021 14:59	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2110367-034	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	32.9	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0015	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0181	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0003	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD131_210416	----	----	----	----
Sampling date / time				16-Apr-2021 14:59	----	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2110367-034	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0203	----	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0196	----	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0199	----	----	----	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	98.5	----	----	----	----	----
13C8-PFOA	----	0.0002	%	95.0	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_210415	0874_SW017_210415	0874_SW021_210415	0874_SW202_210415	0874_SW205_210415
Sampling date / time				15-Apr-2021 18:56	15-Apr-2021 19:03	15-Apr-2021 16:45	15-Apr-2021 10:45	15-Apr-2021 11:20	
Compound	CAS Number	LOR	Unit	EB2110367-001	EB2110367-002	EB2110367-003	EB2110367-004	EB2110367-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.02	0.05	<0.02	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.05	<0.02	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.10	0.34	0.04	0.30	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.10	0.08	0.04	0.50	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	0.08	<0.02	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.03	0.12	<0.02	0.11	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	0.02	<0.01	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC500_210415	0874_SW017_210415	0874_SW021_210415	0874_SW202_210415	0874_SW205_210415
Sampling date / time				15-Apr-2021 18:56	15-Apr-2021 19:03	15-Apr-2021 16:45	15-Apr-2021 10:45	15-Apr-2021 11:20	
Compound	CAS Number	LOR	Unit	EB2110367-001	EB2110367-002	EB2110367-003	EB2110367-004	EB2110367-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.12	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.29	0.89	0.08	1.04	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.20	0.42	0.08	0.80	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.29	0.84	0.08	1.00	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	97.6	108	95.3	104	
13C8-PFOA	----	0.02	%	96.4	104	98.9	104	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW120_210415	0874_SW204_210415	0874_SW203_210415	0874_SW206_210415	0874_QC100_210415
Sampling date / time				15-Apr-2021 15:57	15-Apr-2021 14:00	15-Apr-2021 13:30	15-Apr-2021 19:13	15-Apr-2021 10:45	
Compound	CAS Number	LOR	Unit	EB2110367-006	EB2110367-007	EB2110367-008	EB2110367-009	EB2110367-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	<0.02	<0.02	0.04	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.03	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.13	0.02	0.03	0.24	0.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.15	0.04	0.03	0.34	0.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	<0.02	0.03	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	<0.02	0.08	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	<0.01	<0.01	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW120_210415	0874_SW204_210415	0874_SW203_210415	0874_SW206_210415	0874_QC100_210415
Sampling date / time				15-Apr-2021 15:57	15-Apr-2021 14:00	15-Apr-2021 13:30	15-Apr-2021 19:13	15-Apr-2021 10:45	
Compound	CAS Number	LOR	Unit	EB2110367-006	EB2110367-007	EB2110367-008	EB2110367-009	EB2110367-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.41	0.06	0.06	0.78	0.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	0.06	0.06	0.58	0.09	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.41	0.06	0.06	0.75	0.09	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.2	104	92.0	115	109	
13C8-PFOA	----	0.02	%	104	106	101	102	98.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW207_210415	0874_QC300_210415	0874_SW117_210416	0874_SW118_210416	0874_SW115_210416
Sampling date / time				15-Apr-2021 12:55	15-Apr-2021 18:00	16-Apr-2021 08:27	16-Apr-2021 09:22	16-Apr-2021 09:44	
Compound	CAS Number	LOR	Unit	EB2110367-011	EB2110367-022	EB2110367-023	EB2110367-026	EB2110367-027	EB2110367-027
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	0.67	1.30	<0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.70	1.30	<0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.13	<0.02	3.76	7.16	<0.05	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.28	0.44	<0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.15	<0.01	8.57	10.0	<0.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.3	0.5	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.34	0.67	<0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	1.66	3.12	<0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.30	0.58	<0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.77	1.20	<0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.04	<0.05	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW207_210415	0874_QC300_210415	0874_SW117_210416	0874_SW118_210416	0874_SW115_210416
Sampling date / time				15-Apr-2021 12:55	15-Apr-2021 18:00	16-Apr-2021 08:27	16-Apr-2021 09:22	16-Apr-2021 09:44	
Compound	CAS Number	LOR	Unit	EB2110367-011	EB2110367-022	EB2110367-023	EB2110367-026	EB2110367-027	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.34	<0.01	17.4	26.3	<0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	<0.01	12.3	17.2	<0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	<0.01	16.4	24.5	<0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	93.0	103	101	98.0	
13C8-PFOA	----	0.02	%	107	101	102	100	93.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW210_210416	0874_SW112_210416	0874_SW131_210416	0874_QC301_210416	----
				Sampling date / time	16-Apr-2021 12:20	16-Apr-2021 14:00	16-Apr-2021 14:58	16-Apr-2021 17:16	----
Compound	CAS Number	LOR	Unit	EB2110367-029	EB2110367-031	EB2110367-033	EB2110367-035	-----	
				Result	Result	Result	Result	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	0.28	<0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.32	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.08	0.10	2.52	<0.02	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.12	<0.02	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.14	2.68	<0.01	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	<0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.04	0.18	<0.02	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.04	0.91	<0.02	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.09	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.02	0.16	<0.01	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW210_210416	0874_SW112_210416	0874_SW131_210416	0874_QC301_210416	----
Sampling date / time				16-Apr-2021 12:20	16-Apr-2021 14:00	16-Apr-2021 14:58	16-Apr-2021 17:16	----	----
Compound	CAS Number	LOR	Unit	EB2110367-029	EB2110367-031	EB2110367-033	EB2110367-035	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.20	0.34	7.46	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.14	0.24	5.20	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.20	0.34	7.02	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.7	105	103	108	----	----
13C8-PFOA	----	0.02	%	105	97.8	102	99.6	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3630002)									
EB2110367-012	0874_SD021_210415	EA055: Moisture Content	----	0.1	%	17.5	18.3	4.78	0% - 20%
EB2110367-024	0874_SD117_210416	EA055: Moisture Content	----	0.1	%	60.3	62.3	3.23	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3630001)									
EB2110367-012	0874_SD021_210415	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
EB2110367-024	0874_SD117_210416	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0015	0.0016	8.20	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0012	0.0014	9.72	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0100	0.0107	7.52	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0015	0.0016	8.20	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.139	0.144	3.50	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0024	0.0030	23.4	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3630001)									
EB2110367-012	0874_SD021_210415	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3630001) - continued									
EB2110367-012	0874_SD021_210415	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
EB2110367-024	0874_SD117_210416	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0010	<0.0012	18.2	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0029	0.0030	4.46	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0010	<0.0010	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0021	0.0023	5.91	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0014	<0.0014	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0025	<0.0025	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.005	<0.005	0.00	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3630001)							
EB2110367-012	0874_SD021_210415	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EB2110367-024	0874_SD117_210416	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0025	<0.0025	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0025	<0.0025	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0025	<0.0025	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0025	<0.0025	0.00	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3630001)									
EB2110367-012	0874_SD021_210415	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EB2110367-024	0874_SD117_210416	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0010	<0.0010	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0010	<0.0010	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3635037)									
EB2110367-003	0874_SW021_210415	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.08	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.06	17.7	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.05	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.34	0.36	3.78	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2110367-011	0874_SW207_210415	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.15	0.15	0.00	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.13	0.14	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3635037)									
EB2110367-003	0874_SW021_210415	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.08	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.12	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.03	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3635037) - continued									
EB2110367-003	0874_SW021_210415	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2110367-011	0874_SW207_210415	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.05	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3635037)									
EB2110367-003	0874_SW021_210415	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110367-011	0874_SW207_210415	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3635037)									
EB2110367-003	0874_SW021_210415	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.12	0.12	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110367-011	0874_SW207_210415	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3635037)									
EB2110367-003	0874_SW021_210415	EP231X: Sum of PFAS	----	0.01	µg/L	0.89	0.92	3.31	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.42	0.44	4.65	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.84	0.87	3.51	0% - 20%
EB2110367-011	0874_SW207_210415	EP231X: Sum of PFAS	----	0.01	µg/L	0.34	0.36	5.71	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	0.29	3.51	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	0.36	5.71	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3630001)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	87.3	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	88.5	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	86.0	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	86.1	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	81.9	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	87.9	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3630001)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	78.7	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.2	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.8	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.6	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.2	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.2	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	92.0	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3630001)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.2	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	86.0	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	80.9	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	89.1	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.6	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3630001)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	90.2	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	87.7	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	80.4	65.0	137	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)		
						LCS	Acceptable Limits (%) Low High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3630001) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	75.8	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)		
						LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3635037)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	80.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	71.6	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	68.5	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	75.6	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	76.3	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	69.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3635037)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	74.3	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	76.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	76.6	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	76.6	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	78.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	71.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	77.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	79.4	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	77.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	79.1	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3635037)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	81.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	89.4	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.5	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	86.2	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	77.1	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	79.8	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	73.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3635037)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	80.7	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	75.3	64.0	140



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3635037) - continued									
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	84.4	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	68.5	64.2	133	
EP231P: PFAS Sums (QCLot: 3635037)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3630001)							
EB2110367-013	0874_SD017_210415	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	91.8	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	103	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	91.1	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	87.0	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	90.9	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	92.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3630001)							
EB2110367-013	0874_SD017_210415	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	84.7	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	95.2	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	84.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	94.0	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	86.8	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	87.2	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	85.2	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	92.0	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	85.6	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	88.4	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	86.0	69.0	133
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3630001)					
EB2110367-013	0874_SD017_210415	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	90.8	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	91.5	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3630001) - continued							
EB2110367-013	0874_SD017_210415	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	83.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	88.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	103	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	90.8	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	77.2	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3630001)							
EB2110367-013	0874_SD017_210415	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	105	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	93.3	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	93.3	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3635037)							
EB2110367-002	0874_SW017_210415	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	77.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	80.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	82.5	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	81.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	89.1	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	73.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3635037)							
EB2110367-002	0874_SW017_210415	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	80.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	78.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	83.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	85.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	81.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	84.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	90.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	84.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	73.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	82.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3635037)							
EB2110367-002	0874_SW017_210415	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	79.4	59.0	135



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3635037) - continued							
EB2110367-002	0874_SW017_210415	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	81.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	82.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	74.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	76.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	80.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	86.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3635037)							
EB2110367-002	0874_SW017_210415	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	81.6	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	87.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	84.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	82.0	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2110367	Page	: 1 of 7
Amendment	: 1		
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 16-Apr-2021
Site	: QLD_0874	Issue Date	: 18-May-2021
Sampler	: [REDACTED]	No. of samples received	: 35
Order number	: 60612487_2.1	No. of samples analysed	: 35

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	----	----	----	19-Apr-2021	29-Apr-2021	✓
HDPE Soil Jar (EA055) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	----	----	----	19-Apr-2021	30-Apr-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
HDPE Soil Jar (EP231X) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
HDPE Soil Jar (EP231X) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
HDPE Soil Jar (EP231X) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
HDPE Soil Jar (EP231X) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD021_210415, 0874_QC101_210415, 0874_SD202_210415, 0874_SD203_210415, 0874_SD207_210415,	0874_SD017_210415, 0874_SD205_210415, 0874_SD206_210415, 0874_SD120_210415, 0874_SD204_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓
HDPE Soil Jar (EP231X) 0874_SD117_210416, 0874_SD115_210416, 0874_SD112_210416,	0874_SD118_210416, 0874_SD210_210416, 0874_SD131_210416	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	01-Jun-2021	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC500_210415, 0874_SW021_210415, 0874_SW205_210415, 0874_SW204_210415, 0874_SW206_210415, 0874_SW207_210415,	0874_SW017_210415, 0874_SW202_210415, 0874_SW120_210415, 0874_SW203_210415, 0874_QC100_210415, 0874_QC300_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	12-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210416, 0874_SW115_210416, 0874_SW112_210416, 0874_QC301_210416	0874_SW118_210416, 0874_SW210_210416, 0874_SW131_210416,	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	13-Oct-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_QC500_210415, 0874_SW021_210415, 0874_SW205_210415, 0874_SW204_210415, 0874_SW206_210415, 0874_SW207_210415,	0874_SW017_210415, 0874_SW202_210415, 0874_SW120_210415, 0874_SW203_210415, 0874_QC100_210415, 0874_QC300_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	12-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210416, 0874_SW115_210416, 0874_SW112_210416, 0874_QC301_210416	0874_SW118_210416, 0874_SW210_210416, 0874_SW131_210416,	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	13-Oct-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_QC500_210415, 0874_SW021_210415, 0874_SW205_210415, 0874_SW204_210415, 0874_SW206_210415, 0874_SW207_210415,	0874_SW017_210415, 0874_SW202_210415, 0874_SW120_210415, 0874_SW203_210415, 0874_QC100_210415, 0874_QC300_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	12-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210416, 0874_SW115_210416, 0874_SW112_210416, 0874_QC301_210416	0874_SW118_210416, 0874_SW210_210416, 0874_SW131_210416,	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	13-Oct-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC500_210415, 0874_SW021_210415, 0874_SW205_210415, 0874_SW204_210415, 0874_SW206_210415, 0874_SW207_210415,	0874_SW017_210415, 0874_SW202_210415, 0874_SW120_210415, 0874_SW203_210415, 0874_QC100_210415, 0874_QC300_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	12-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210416, 0874_SW115_210416, 0874_SW112_210416, 0874_QC301_210416	0874_SW118_210416, 0874_SW210_210416, 0874_SW131_210416,	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	13-Oct-2021	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_QC500_210415, 0874_SW021_210415, 0874_SW205_210415, 0874_SW204_210415, 0874_SW206_210415, 0874_SW207_210415,	0874_SW017_210415, 0874_SW202_210415, 0874_SW120_210415, 0874_SW203_210415, 0874_QC100_210415, 0874_QC300_210415	15-Apr-2021	22-Apr-2021	12-Oct-2021	✓	23-Apr-2021	12-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_SW117_210416, 0874_SW115_210416, 0874_SW112_210416, 0874_QC301_210416	0874_SW118_210416, 0874_SW210_210416, 0874_SW131_210416,	16-Apr-2021	22-Apr-2021	13-Oct-2021	✓	23-Apr-2021	13-Oct-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: WATER

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2110367

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 21519	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 16-Apr-2021 05:25	Issue Date	: 19-Apr-2021
Client Requested Due Date	: 28-Apr-2021	Scheduled Reporting Date	: 28-Apr-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.6°C - Ice present
Receipt Detail	: Esky	No. of samples received / analysed	: 35 / 35

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2110367-012	15-Apr-2021 16:45	0874_SD021_210415	✓	✓
EB2110367-013	15-Apr-2021 17:10	0874_SD017_210415	✓	✓
EB2110367-014	15-Apr-2021 10:45	0874_QC101_210415	✓	✓
EB2110367-015	15-Apr-2021 19:23	0874_SD205_210415	✓	✓
EB2110367-016	15-Apr-2021 10:45	0874_SD202_210415	✓	✓
EB2110367-017	15-Apr-2021 12:20	0874_SD206_210415	✓	✓
EB2110367-018	15-Apr-2021 13:30	0974_SD203_210415	✓	✓
EB2110367-019	15-Apr-2021 15:57	0874_SD120_210415	✓	✓
EB2110367-020	15-Apr-2021 12:55	0874_SD207_210415	✓	✓
EB2110367-021	15-Apr-2021 14:00	0874_SD204_210415	✓	✓
EB2110367-024	16-Apr-2021 08:28	0874_SD117_210416	✓	✓
EB2110367-025	16-Apr-2021 09:21	0874_SD118_210416	✓	✓
EB2110367-028	16-Apr-2021 09:45	0874_SD115_210416	✓	✓
EB2110367-030	16-Apr-2021 12:21	0874_SD210_210416	✓	✓
EB2110367-032	16-Apr-2021 14:01	0874_SD112_210416	✓	✓
EB2110367-034	16-Apr-2021 14:59	0874_SD131_210416	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2110367-001	15-Apr-2021 18:56	0874_QC500_210415	✓
EB2110367-002	15-Apr-2021 19:03	0874_SW017_210415	✓
EB2110367-003	15-Apr-2021 16:45	0874_SW021_210415	✓
EB2110367-004	15-Apr-2021 10:45	0874_SW202_210415	✓
EB2110367-005	15-Apr-2021 11:20	0874_SW205_210415	✓
EB2110367-006	15-Apr-2021 15:57	0874_SW120_210415	✓
EB2110367-007	15-Apr-2021 14:00	0874_SW204_210415	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

EB2110367-008	15-Apr-2021 13:30	0874_SW203_210415	✓
EB2110367-009	15-Apr-2021 19:13	0874_SW206_210415	✓
EB2110367-010	15-Apr-2021 10:45	0874_QC100_210415	✓
EB2110367-011	15-Apr-2021 12:55	0874_SW207_210415	✓
EB2110367-022	15-Apr-2021 18:00	0874_QC300_210415	✓
EB2110367-023	16-Apr-2021 08:27	0874_SW117_210416	✓
EB2110367-026	16-Apr-2021 09:22	0874_SW118_210416	✓
EB2110367-027	16-Apr-2021 09:44	0874_SW115_210416	✓
EB2110367-029	16-Apr-2021 12:20	0874_SW210_210416	✓
EB2110367-031	16-Apr-2021 14:00	0874_SW112_210416	✓
EB2110367-033	16-Apr-2021 14:58	0874_SW131_210416	✓
EB2110367-035	16-Apr-2021 17:16	0874_QC301_210416	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2110866**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **21651**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **42**
No. of samples analysed : **42**

Page : 1 of 21
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 21-Apr-2021 17:20
Date Analysis Commenced : 22-Apr-2021
Issue Date : 05-May-2021 09:58



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFDS for sample '0874_MW250_210421' has been raised due to matrix interference.
- EP231X PFAS: The LOR for PFBS has been raised for samples '0874_SD109_210420' and '0874_SD108_210420' due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Sample "0874_MW129_210421" required dilution due to sample matrix. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD129_210420	0874_QC103_210420	0874_SD111_210420	0874_SD110_210420	0874_SD109_210420
Sampling date / time					20-Apr-2021 13:09	20-Apr-2021 13:10	20-Apr-2021 14:06	20-Apr-2021 14:27	20-Apr-2021 15:00
Compound	CAS Number	LOR	Unit		EB2110866-002	EB2110866-004	EB2110866-006	EB2110866-011	EB2110866-013
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%		25.8	24.6	34.2	41.8	29.1
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg		<0.0002	<0.0002	0.0010	0.0003	<0.0006
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg		<0.0002	<0.0002	0.0012	0.0004	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg		<0.0002	<0.0002	0.0145	0.0038	0.0007
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg		<0.0002	<0.0002	0.0012	0.0003	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg		<0.0002	<0.0002	0.0711	0.0288	0.0086
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg		<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg		<0.0002	<0.0002	0.0004	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg		<0.0002	<0.0002	0.0024	0.0010	0.0004
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg		<0.0002	<0.0002	0.0002	<0.0002	0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg		<0.0002	<0.0002	0.0007	0.0002	0.0010
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD129_210420	0874_QC103_210420	0874_SD111_210420	0874_SD110_210420	0874_SD109_210420
Sampling date / time					20-Apr-2021 13:09	20-Apr-2021 13:10	20-Apr-2021 14:06	20-Apr-2021 14:27	20-Apr-2021 15:00
Compound	CAS Number	LOR	Unit	EB2110866-002	EB2110866-004	EB2110866-006	EB2110866-011	EB2110866-013	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	<0.0002	0.0927	0.0348	0.0109	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0856	0.0326	0.0093	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	0.0903	0.0341	0.0109	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	112	108	100	105	126	
13C8-PFOA	----	0.0002	%	110	98.5	99.0	106	93.5	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD108_210420	0874_SD107_210420	0874_SD208_210420	0874_SD116_210420	0874_QC105_210420
		Sampling date / time		20-Apr-2021 15:10	20-Apr-2021 15:26	20-Apr-2021 15:56	20-Apr-2021 16:16	20-Apr-2021 16:16
Compound	CAS Number	LOR	Unit	EB2110866-015	EB2110866-017	EB2110866-019	EB2110866-021	EB2110866-023
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	31.9	55.3	34.4	24.0	20.9
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0004	0.0003	<0.0002	<0.0002	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0017	0.0002	0.0004	0.0004
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0016	0.0147	0.0032	0.0044	0.0043
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0022	<0.0002	0.0008	0.0008
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0006	0.0007
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD108_210420	0874_SD107_210420	0874_SD208_210420	0874_SD116_210420	0874_QC105_210420
Sampling date / time				20-Apr-2021 15:10	20-Apr-2021 15:26	20-Apr-2021 15:56	20-Apr-2021 16:16	20-Apr-2021 16:16	20-Apr-2021 16:16
Compound	CAS Number	LOR	Unit	EB2110866-015	EB2110866-017	EB2110866-019	EB2110866-021	EB2110866-023	EB2110866-023
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0019	0.0193	0.0034	0.0062	0.0066	0.0066
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0019	0.0164	0.0034	0.0048	0.0047	0.0047
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0019	0.0189	0.0034	0.0062	0.0066	0.0066
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	100	107	91.0	112	101	101
13C8-PFOA	----	0.0002	%	88.5	102	97.0	105	104	104



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_210420	0874_QC102_210420	0874_SW111_210420	0874_MW235_210420	0874_MW255_210420
Sampling date / time				20-Apr-2021 13:08	20-Apr-2021 13:10	20-Apr-2021 14:06	20-Apr-2021 14:17	20-Apr-2021 14:18	
Compound	CAS Number	LOR	Unit	EB2110866-001	EB2110866-003	EB2110866-005	EB2110866-007	EB2110866-008	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.25	0.03	0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.24	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	1.98	0.09	0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.09	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	1.76	0.08	0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.16	0.28	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.75	0.41	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.06	0.17	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.10	0.28	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_210420	0874_QC102_210420	0874_SW111_210420	0874_MW235_210420	0874_MW255_210420
Sampling date / time					20-Apr-2021 13:08	20-Apr-2021 13:10	20-Apr-2021 14:06	20-Apr-2021 14:17	20-Apr-2021 14:18
Compound	CAS Number	LOR	Unit	EB2110866-001	EB2110866-003	EB2110866-005	EB2110866-007	EB2110866-008	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	5.49	1.48	0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	3.74	0.17	0.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	5.16	1.44	0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	106	109	109	102	
13C8-PFOA	----	0.02	%	106	104	104	103	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW234_210420	0874_SW110_210420	0874_SW109_210420	0874_SW108_210420	0874_SW107_210420
Sampling date / time				20-Apr-2021 14:19	20-Apr-2021 14:26	20-Apr-2021 14:59	20-Apr-2021 15:09	20-Apr-2021 15:25	
Compound	CAS Number	LOR	Unit	EB2110866-009	EB2110866-010	EB2110866-012	EB2110866-014	EB2110866-016	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.21	0.10	0.22	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.18	0.09	0.16	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	1.12	0.51	1.04	0.30	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.03	0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	1.09	1.05	0.28	0.21	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.10	0.06	0.06	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.46	0.28	0.38	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.04	0.05	0.03	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.06	0.08	0.03	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW234_210420	0874_SW110_210420	0874_SW109_210420	0874_SW108_210420	0874_SW107_210420
Sampling date / time				20-Apr-2021 14:19	20-Apr-2021 14:26	20-Apr-2021 14:59	20-Apr-2021 15:09	20-Apr-2021 15:25	
Compound	CAS Number	LOR	Unit	EB2110866-009	EB2110866-010	EB2110866-012	EB2110866-014	EB2110866-016	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.12	3.40	2.25	2.22	0.68	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.12	2.21	1.56	1.32	0.51	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.12	3.18	2.13	2.04	0.64	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	109	107	110	111	110	
13C8-PFOA	----	0.02	%	104	105	101	104	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW208_210420	0874_SW116_210420	0874_QC104_210420	0874_QC302_210420	0874_MW250_210421
Sampling date / time				20-Apr-2021 15:54	20-Apr-2021 16:13	20-Apr-2021 16:13	20-Apr-2021 16:38	21-Apr-2021 08:16	
Compound	CAS Number	LOR	Unit	EB2110866-018	EB2110866-020	EB2110866-022	EB2110866-024	EB2110866-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.07	<0.02	0.47	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.07	0.06	<0.02	0.32	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.33	0.35	0.35	<0.02	2.87	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	<0.02	<0.02	0.07	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.64	0.76	0.83	<0.01	1.51	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.03	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.05	0.05	<0.02	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.19	0.17	0.18	<0.02	0.54	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.02	0.03	<0.02	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.05	0.05	<0.01	0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW208_210420	0874_SW116_210420	0874_QC104_210420	0874_QC302_210420	0874_MW250_210421
Sampling date / time					20-Apr-2021 15:54	20-Apr-2021 16:13	20-Apr-2021 16:13	20-Apr-2021 16:38	21-Apr-2021 08:16
Compound	CAS Number	LOR	Unit	EB2110866-018	EB2110866-020	EB2110866-022	EB2110866-024	EB2110866-025	EB2110866-025
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	0.12
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.44	1.55	1.62	<0.01	<0.01	6.23
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.97	1.11	1.18	<0.01	<0.01	4.38
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.35	1.48	1.56	<0.01	<0.01	5.84
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	114	126	119	119	110
13C8-PFOA	----	0.02	%	102	104	104	104	104	103



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_210421	0874_QC106_210421	0874_MW140_210421	0874_MW118_210421	0874_MW129_210421
Sampling date / time				21-Apr-2021 09:02	21-Apr-2021 09:02	21-Apr-2021 09:32	21-Apr-2021 09:49	21-Apr-2021 10:07	
Compound	CAS Number	LOR	Unit	EB2110866-026	EB2110866-027	EB2110866-028	EB2110866-029	EB2110866-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.39	2.69	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.18	1.11	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.08	0.07	0.02	0.39	3.60	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.28	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	0.10	<0.01	0.56	12.6	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.3	6.9	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.18	10.3	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.27	5.87	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.78	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.03	0.97	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.15	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.10	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.19	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.19	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.19	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_210421	0874_QC106_210421	0874_MW140_210421	0874_MW118_210421	0874_MW129_210421
Sampling date / time				21-Apr-2021 09:02	21-Apr-2021 09:02	21-Apr-2021 09:32	21-Apr-2021 09:49	21-Apr-2021 10:07	
Compound	CAS Number	LOR	Unit	EB2110866-026	EB2110866-027	EB2110866-028	EB2110866-029	EB2110866-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.19	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.19	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.07	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.07	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.07	0.06	<0.05	<0.05	10.1	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	1.39	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	0.12	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.27	0.23	0.02	2.33	57.0	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.20	0.17	0.02	0.95	16.2	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.27	0.23	0.02	2.15	55.2	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	117	110	110	121	86.0	
13C8-PFOA	----	0.02	%	103	104	102	103	98.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW212_210421	0874_MW264_210421	0874_MW256_210421	0874_MW236_210421	0874_MW257_210421
Sampling date / time				21-Apr-2021 12:11	21-Apr-2021 13:14	21-Apr-2021 13:41	21-Apr-2021 14:19	21-Apr-2021 14:45	
Compound	CAS Number	LOR	Unit	EB2110866-031	EB2110866-032	EB2110866-033	EB2110866-034	EB2110866-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.27	<0.02	0.02	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.20	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.87	<0.02	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.06	0.15	<0.01	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.2	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.03	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW212_210421	0874_MW264_210421	0874_MW256_210421	0874_MW236_210421	0874_MW257_210421
Sampling date / time				21-Apr-2021 12:11	21-Apr-2021 13:14	21-Apr-2021 13:41	21-Apr-2021 14:19	21-Apr-2021 14:45	
Compound	CAS Number	LOR	Unit	EB2110866-031	EB2110866-032	EB2110866-033	EB2110866-034	EB2110866-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	1.62	0.18	0.02	0.06	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.93	0.15	<0.01	0.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	1.42	0.18	0.02	0.06	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.3	106	107	109	106	
13C8-PFOA	----	0.02	%	100	100	99.6	107	98.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW258_210421	0874_MW259_210421	0874_MW260_210421	0874_MW262_210421	0874_MW254_210421
Sampling date / time				21-Apr-2021 15:05	21-Apr-2021 15:30	21-Apr-2021 15:49	21-Apr-2021 16:24	21-Apr-2021 16:44	
Compound	CAS Number	LOR	Unit	EB2110866-036	EB2110866-037	EB2110866-038	EB2110866-039	EB2110866-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.02	0.03	<0.02	0.12	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.08	0.01	0.02	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW258_210421	0874_MW259_210421	0874_MW260_210421	0874_MW262_210421	0874_MW254_210421
Sampling date / time				21-Apr-2021 15:05	21-Apr-2021 15:30	21-Apr-2021 15:49	21-Apr-2021 16:24	21-Apr-2021 16:44	
Compound	CAS Number	LOR	Unit	EB2110866-036	EB2110866-037	EB2110866-038	EB2110866-039	EB2110866-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.13	0.14	0.01	0.42	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.11	0.01	0.14	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.13	0.14	0.01	0.40	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	98.9	98.2	95.6	108	
13C8-PFOA	----	0.02	%	98.1	100	99.9	98.7	99.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID		0874_QC303_210421	0874_QC501_210420	----	----	----
			Sampling date / time		21-Apr-2021 17:06	21-Apr-2021 17:16	----	----	----
Compound	CAS Number	LOR	Unit	EB2110866-041	EB2110866-042	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC303_210421	0874_QC501_210420	----	----	----
Sampling date / time				21-Apr-2021 17:06	21-Apr-2021 17:16	----	----	----	
Compound	CAS Number	LOR	Unit	EB2110866-041	EB2110866-042	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	99.7	----	----	----	
13C8-PFOA	----	0.02	%	101	98.9	----	----	----	



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order : EB2110866 Client : AECOM Australia Pty Ltd Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Project : QLD_0874_PFASOMP Order number : 60612487_2.1 C-O-C number : 21651 Sampler : [REDACTED] Site : QLD_0874 Quote number : TV/007/21 - Compass No. of samples received : 42 No. of samples analysed : 42	Page : 1 of 14 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 21-Apr-2021 Date Analysis Commenced : 22-Apr-2021 Issue Date : 05-May-2021
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3637015)											
EB2110866-002	0874_SD129_210420	EA055: Moisture Content	----	0.1	%	25.8	26.2	1.80	0% - 20%		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3637014)											
EB2110866-002	0874_SD129_210420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3637014)											
EB2110866-002	0874_SD129_210420	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit		
				EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3637014)									
EB2110866-002	0874_SD129_210420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit		



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3637014) - continued									
EB2110866-002	0874_SD129_210420	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3637014)									
EB2110866-002	0874_SD129_210420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3647024)									
EB2110866-001	0874_SW129_210420	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2110866-018	0874_SW208_210420	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.64	0.68	6.46	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.07	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.07	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.33	0.32	0.00	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3647029)									
EB2110866-031	0874_MW212_210421	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.02	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3647029) - continued									
EB2110866-031	0874_MW212_210421	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2110866-040	0874_MW254_210421	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3647024)									
EB2110866-001	0874_SW129_210420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EB2110866-018	0874_SW208_210420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	0.04	0.04	0.00	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.19	0.19	0.00	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.03	0.03	0.00	No Limit
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3647029)									
EB2110866-031	0874_MW212_210421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3647029) - continued									
EB2110866-031	0874_MW212_210421	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EB2110866-040	0874_MW254_210421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3647024)									
EB2110866-001	0874_SW129_210420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110866-018	0874_SW208_210420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit

EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3647029)



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3647029) - continued									
EB2110866-031	0874_MW212_210421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110866-040	0874_MW254_210421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3647024)									
EB2110866-001	0874_SW129_210420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110866-018	0874_SW208_210420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3647024) - continued									
EB2110866-018	0874_SW208_210420	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3647029)									
EB2110866-031	0874_MW212_210421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2110866-040	0874_MW254_210421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3647024)									
EB2110866-001	0874_SW129_210420	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
EB2110866-018	0874_SW208_210420	EP231X: Sum of PFAS	----	0.01	µg/L	1.44	1.44	0.00	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.97	1.00	3.04	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.35	1.37	1.47	0% - 20%
EP231P: PFAS Sums (QC Lot: 3647029)									
EB2110866-031	0874_MW212_210421	EP231X: Sum of PFAS	----	0.01	µg/L	0.01	0.02	66.7	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.02	66.7	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.02	66.7	No Limit
EB2110866-040	0874_MW254_210421	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3637014)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	93.6	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	88.5	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	85.2	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	89.1	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	86.2	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	86.7	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3637014)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	85.0	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.2	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.8	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.0	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.2	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.6	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.8	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.0	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.2	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.8	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.8	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3637014)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.6	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	92.5	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	83.6	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	83.5	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.8	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3637014)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	87.6	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	99.6	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	88.8	65.0	137	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3637014) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	83.3	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3647024)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	95.4	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	100	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	98.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.6	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	109	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	80.1	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3647029)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	113	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	122	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	110	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	118	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	123	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	125	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647024)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.7	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	102	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	105	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647029)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	112	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	106	71.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647029) - continued									
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	112	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3647024)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	91.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	93.3	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.5	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	104	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	93.4	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	90.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.4	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3647029)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.9	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	102	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	110	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	106	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3647024)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	93.5	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	100	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	89.0	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3647029)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	117	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	120	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	138	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	120	64.2	133	
EP231P: PFAS Sums (QCLot: 3647024)									



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3647024) - continued								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3647029)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report					
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%) Low High			
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3637014)									
EB2110866-004	0874_QC103_210420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	84.5	72.0	128		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	95.7	73.0	123		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	87.3	67.0	130		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	93.3	70.0	132		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	95.2	68.0	136		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	102	59.0	134		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3637014)									
EB2110866-004	0874_QC103_210420	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	89.8	71.0	135		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	99.6	69.0	132		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	93.2	70.0	132		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	92.4	71.0	131		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	90.0	69.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	91.2	72.0	129		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	94.4	69.0	133		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	85.6	64.0	136		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	96.0	69.0	135		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	96.8	66.0	139		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	94.1	69.0	133		
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3637014)							
		EB2110866-004	0874_QC103_210420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	48.0	128



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3637014) - continued							
EB2110866-004	0874_QC103_210420	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	91.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	97.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	94.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	92.8	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	88.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3637014)							
EB2110866-004	0874_QC103_210420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	88.5	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	104	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	102	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	92.9	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3647024)							
EB2110866-003	0874_QC102_210420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	93.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	96.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	95.8	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	103	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	77.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3647029)							
EB2110866-039	0874_MW262_210421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.5	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	124	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	89.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	88.9	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	109	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647024)							
EB2110866-003	0874_QC102_210420	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	99.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	106	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	101	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	101	72.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647024) - continued							
EB2110866-003	0874_QC102_210420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	100	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	95.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.4	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	87.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	99.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	91.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.1	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3647029)							
EB2110866-039	0874_MW262_210421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.6	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	112	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.6	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	94.3	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.4	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	77.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	82.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	88.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	89.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3647024)							
EB2110866-003	0874_QC102_210420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	89.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.3	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	100	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	87.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	87.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	102	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3647029)							
EB2110866-039	0874_MW262_210421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	68.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	72.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	90.6	70.0	130



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3647029) - continued							
EB2110866-039	0874_MW262_210421	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3647024)							
EB2110866-003	0874_QC102_210420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	88.9	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	96.4	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	88.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3647029)							
EB2110866-039	0874_MW262_210421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	113	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	94.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	115	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	128	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2110866	Page	: 1 of 7
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 21-Apr-2021
Site	: QLD_0874	Issue Date	: 05-May-2021
Sampler	: [REDACTED]	No. of samples received	: 42
Order number	: 60612487_2.1	No. of samples analysed	: 42

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	----	----	----	22-Apr-2021	04-May-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	27-Apr-2021	17-Oct-2021	✓	29-Apr-2021	06-Jun-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	27-Apr-2021	17-Oct-2021	✓	29-Apr-2021	06-Jun-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	27-Apr-2021	17-Oct-2021	✓	29-Apr-2021	06-Jun-2021	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	27-Apr-2021	17-Oct-2021	✓	29-Apr-2021	06-Jun-2021	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD129_210420, 0874_SD111_210420, 0874_SD109_210420, 0874_SD107_210420, 0874_SD116_210420,	0874_QC103_210420, 0874_SD110_210420, 0874_SD108_210420, 0874_SD208_210420, 0874_QC105_210420	20-Apr-2021	27-Apr-2021	17-Oct-2021	✓	29-Apr-2021	06-Jun-2021	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210420, 0874_SW111_210420, 0874_MW255_210420, 0874_SW110_210420, 0874_SW108_210420, 0874_SW208_210420, 0874_QC104_210420,	0874_QC102_210420, 0874_MW235_210420, 0874_MW234_210420, 0874_SW109_210420, 0874_SW107_210420, 0874_SW116_210420, 0874_QC302_210420	20-Apr-2021	29-Apr-2021	17-Oct-2021	✓	30-Apr-2021	17-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW250_210421, 0874_QC106_210421, 0874_MW118_210421,	0874_MW142_210421, 0874_MW140_210421, 0874_MW129_210421	21-Apr-2021	29-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW212_210421, 0874_MW256_210421, 0874_MW257_210421, 0874_MW259_210421, 0874_MW262_210421, 0874_QC303_210421,	0874_MW264_210421, 0874_MW236_210421, 0874_MW258_210421, 0874_MW260_210421, 0874_MW254_210421, 0874_QC501_210420	21-Apr-2021	30-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210420, 0874_SW111_210420, 0874_MW255_210420, 0874_SW110_210420, 0874_SW108_210420, 0874_SW208_210420, 0874_QC104_210420,	0874_QC102_210420, 0874_MW235_210420, 0874_MW234_210420, 0874_SW109_210420, 0874_SW107_210420, 0874_SW116_210420, 0874_QC302_210420	20-Apr-2021	29-Apr-2021	17-Oct-2021	✓	30-Apr-2021	17-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW250_210421, 0874_QC106_210421, 0874_MW118_210421,	0874_MW142_210421, 0874_MW140_210421, 0874_MW129_210421	21-Apr-2021	29-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW212_210421, 0874_MW256_210421, 0874_MW257_210421, 0874_MW259_210421, 0874_MW262_210421, 0874_QC303_210421,	0874_MW264_210421, 0874_MW236_210421, 0874_MW258_210421, 0874_MW260_210421, 0874_MW254_210421, 0874_QC501_210420	21-Apr-2021	30-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW129_210420, 0874_SW111_210420, 0874_MW255_210420, 0874_SW110_210420, 0874_SW108_210420, 0874_SW208_210420, 0874_QC104_210420,	0874_QC102_210420, 0874_MW235_210420, 0874_MW234_210420, 0874_SW109_210420, 0874_SW107_210420, 0874_SW116_210420, 0874_QC302_210420	20-Apr-2021	29-Apr-2021	17-Oct-2021	✓	30-Apr-2021	17-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW250_210421, 0874_QC106_210421, 0874_MW118_210421,	0874_MW142_210421, 0874_MW140_210421, 0874_MW129_210421	21-Apr-2021	29-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW212_210421, 0874_MW256_210421, 0874_MW257_210421, 0874_MW259_210421, 0874_MW262_210421, 0874_QC303_210421,	0874_MW264_210421, 0874_MW236_210421, 0874_MW258_210421, 0874_MW260_210421, 0874_MW254_210421, 0874_QC501_210420	21-Apr-2021	30-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_210420, 0874_SW111_210420, 0874_MW255_210420, 0874_SW110_210420, 0874_SW108_210420, 0874_SW208_210420, 0874_QC104_210420,	0874_QC102_210420, 0874_MW235_210420, 0874_MW234_210420, 0874_SW109_210420, 0874_SW107_210420, 0874_SW116_210420, 0874_QC302_210420	20-Apr-2021	29-Apr-2021	17-Oct-2021	✓	30-Apr-2021	17-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW250_210421, 0874_QC106_210421, 0874_MW118_210421,	0874_MW142_210421, 0874_MW140_210421, 0874_MW129_210421	21-Apr-2021	29-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW212_210421, 0874_MW256_210421, 0874_MW257_210421, 0874_MW259_210421, 0874_MW262_210421, 0874_QC303_210421,	0874_MW264_210421, 0874_MW236_210421, 0874_MW258_210421, 0874_MW260_210421, 0874_MW254_210421, 0874_QC501_210420	21-Apr-2021	30-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW129_210420, 0874_SW111_210420, 0874_MW255_210420, 0874_SW110_210420, 0874_SW108_210420, 0874_SW208_210420, 0874_QC104_210420,	0874_QC102_210420, 0874_MW235_210420, 0874_MW234_210420, 0874_SW109_210420, 0874_SW107_210420, 0874_SW116_210420, 0874_QC302_210420	20-Apr-2021	29-Apr-2021	17-Oct-2021	✓	30-Apr-2021	17-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW250_210421, 0874_QC106_210421, 0874_MW118_210421,	0874_MW142_210421, 0874_MW140_210421, 0874_MW129_210421	21-Apr-2021	29-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW212_210421, 0874_MW256_210421, 0874_MW257_210421, 0874_MW259_210421, 0874_MW262_210421, 0874_QC303_210421,	0874_MW264_210421, 0874_MW236_210421, 0874_MW258_210421, 0874_MW260_210421, 0874_MW254_210421, 0874_QC501_210420	21-Apr-2021	30-Apr-2021	18-Oct-2021	✓	30-Apr-2021	18-Oct-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: WATER

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	37	10.81	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2110866

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 21651	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 21-Apr-2021 17:20	Issue Date	: 22-Apr-2021
Client Requested Due Date	: 04-May-2021	Scheduled Reporting Date	: 04-May-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 18.0°C - Ice present
Receipt Detail	: LARGE ESKY	No. of samples received / analysed	: 42 / 42

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples #35 and #36 were received and have been placed on hold as per COC. If testing is required on this sample, please contact ALS Client Services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2110866-002	20-Apr-2021 13:09	0874_SD129_210420	✓	✓
EB2110866-004	20-Apr-2021 13:10	0874_QC103_210420	✓	✓
EB2110866-006	20-Apr-2021 14:06	0874_SD111_210420	✓	✓
EB2110866-011	20-Apr-2021 14:27	0874_SD110_210420	✓	✓
EB2110866-013	20-Apr-2021 15:00	0874_SD109_210420	✓	✓
EB2110866-015	20-Apr-2021 15:10	0874_SD108_210420	✓	✓
EB2110866-017	20-Apr-2021 15:26	0874_SD107_210420	✓	✓
EB2110866-019	20-Apr-2021 15:56	0874_SD208_210420	✓	✓
EB2110866-021	20-Apr-2021 16:16	0874_SD116_210420	✓	✓
EB2110866-023	20-Apr-2021 16:16	0874_QC105_210420	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2110866-001	20-Apr-2021 13:08	0874_SW129_210420	✓
EB2110866-003	20-Apr-2021 13:10	0874_QC102_210420	✓
EB2110866-005	20-Apr-2021 14:06	0874_SW111_210420	✓
EB2110866-007	20-Apr-2021 14:17	0874_MW235_210420	✓
EB2110866-008	20-Apr-2021 14:18	0874_MW255_210420	✓
EB2110866-009	20-Apr-2021 14:19	0874_MW234_210420	✓
EB2110866-010	20-Apr-2021 14:26	0874_SW110_210420	✓
EB2110866-012	20-Apr-2021 14:59	0874_SW109_210420	✓
EB2110866-014	20-Apr-2021 15:09	0874_SW108_210420	✓
EB2110866-016	20-Apr-2021 15:25	0874_SW107_210420	✓
EB2110866-018	20-Apr-2021 15:54	0874_SW208_210420	✓
EB2110866-020	20-Apr-2021 16:13	0874_SW116_210420	✓
EB2110866-022	20-Apr-2021 16:13	0874_QC104_210420	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2110866-024	20-Apr-2021 16:38	0874_QC302_210420		✓
EB2110866-025	21-Apr-2021 08:16	0874_MW250_210421		✓
EB2110866-026	21-Apr-2021 09:02	0874_MW142_210421		✓
EB2110866-027	21-Apr-2021 09:02	0874_QC106_210421		✓
EB2110866-028	21-Apr-2021 09:32	0874_MW140_210421		✓
EB2110866-029	21-Apr-2021 09:49	0874_MW118_210421		✓
EB2110866-030	21-Apr-2021 10:07	0874_MW129_210421		✓
EB2110866-031	21-Apr-2021 12:11	0874_MW212_210421		✓
EB2110866-032	21-Apr-2021 13:14	0874_MW264_210421		✓
EB2110866-033	21-Apr-2021 13:41	0874_MW256_210421		✓
EB2110866-034	21-Apr-2021 14:19	0874_MW236_210421		✓
EB2110866-035	21-Apr-2021 14:45	0874_MW257_210421		✓
EB2110866-036	21-Apr-2021 15:05	0874_MW258_210421		✓
EB2110866-037	21-Apr-2021 15:30	0874_MW259_210421		✓
EB2110866-038	21-Apr-2021 15:49	0874_MW260_210421		✓
EB2110866-039	21-Apr-2021 16:24	0874_MW262_210421		✓
EB2110866-040	21-Apr-2021 16:44	0874_MW254_210421		✓
EB2110866-041	21-Apr-2021 17:06	0874_QC303_210421		✓
EB2110866-042	21-Apr-2021 17:16	0874_QC501_210420		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2111376**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **21887**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **36**
No. of samples analysed : **36**

Page : 1 of 19
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 27-Apr-2021 17:00
Date Analysis Commenced : 03-May-2021
Issue Date : 07-May-2021 16:44



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
[REDACTED]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[REDACTED]	LCMS Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_210422	0874_SD125_210422	0874_SD102_210422	0874_SD013_210422	0874_SD016_210422
Sampling date / time				22-Apr-2021 09:25	22-Apr-2021 09:57	22-Apr-2021 10:23	22-Apr-2021 10:48	22-Apr-2021 11:06	
Compound	CAS Number	LOR	Unit	EB2111376-001	EB2111376-003	EB2111376-005	EB2111376-007	EB2111376-009	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	63.3	20.0	33.0	23.2	62.2	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0021	0.0017	0.0007	0.0003	0.0006	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0018	0.0025	0.0006	0.0003	0.0006	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0234	0.0248	0.0094	0.0075	0.0080	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0035	0.0019	0.0005	0.0010	0.0010	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.492	0.0534	0.0489	0.0638	0.0670	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0283	0.0005	0.0017	0.0009	0.0031	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0018	0.0013	<0.0002	<0.0002	0.0036	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0039	0.0092	0.0014	0.0005	0.0017	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0004	0.0005	<0.0002	<0.0002	0.0004	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0018	0.0013	0.0004	0.0005	0.0005	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0017	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_210422	0874_SD125_210422	0874_SD102_210422	0874_SD013_210422	0874_SD016_210422
Sampling date / time					22-Apr-2021 09:25	22-Apr-2021 09:57	22-Apr-2021 10:23	22-Apr-2021 10:48	22-Apr-2021 11:06
Compound	CAS Number	LOR	Unit	EB2111376-001	EB2111376-003	EB2111376-005	EB2111376-007	EB2111376-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.561	0.0971	0.0636	0.0748	0.0886	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.515	0.0782	0.0583	0.0713	0.0750	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.525	0.0922	0.0608	0.0726	0.0828	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	80.0	93.0	98.5	104	90.5	
13C8-PFOA	----	0.0002	%	90.5	88.5	89.5	96.0	97.0	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD123_210422	0874_SD019_210422	0874_SD010_210422	0874_SD001_210422	0874_SD132_210422
		Sampling date / time		22-Apr-2021 11:19	22-Apr-2021 11:48	22-Apr-2021 12:13	22-Apr-2021 12:27	22-Apr-2021 12:44
Compound	CAS Number	LOR	Unit	EB2111376-011	EB2111376-013	EB2111376-015	EB2111376-017	EB2111376-020
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	27.0	18.4	27.2	14.9	20.7
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0008	0.0094	0.0003	0.0003	<0.0002
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0011	0.0106	0.0003	0.0004	<0.0002
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0168	0.0710	0.0035	0.0036	0.0009
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0027	0.0070	0.0003	0.0004	<0.0002
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.142	0.156	0.0239	0.0262	0.0087
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0077	0.0032	0.0006	0.0002	0.0004
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.002	<0.001	<0.001	<0.001
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0005	0.0052	<0.0002	<0.0002	<0.0002
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0021	0.0181	0.0004	0.0003	0.0002
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	0.0022	<0.0002	<0.0002	<0.0002
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0012	0.0051	0.0003	0.0002	0.0002
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0003	0.0004	<0.0002	<0.0002	<0.0002
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0004	0.0004	<0.0002	<0.0002	<0.0002
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0027	0.0024	<0.0002	0.0003	<0.0002
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD123_210422	0874_SD019_210422	0874_SD010_210422	0874_SD001_210422	0874_SD132_210422
Sampling date / time				22-Apr-2021 11:19	22-Apr-2021 11:48	22-Apr-2021 12:13	22-Apr-2021 12:27	22-Apr-2021 12:44	
Compound	CAS Number	LOR	Unit	EB2111376-011	EB2111376-013	EB2111376-015	EB2111376-017	EB2111376-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.178	0.296	0.0296	0.0319	0.0104	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.159	0.227	0.0274	0.0298	0.0096	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.164	0.271	0.0284	0.0306	0.0100	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	93.5	114	104	91.0	85.0	
13C8-PFOA	----	0.0002	%	83.0	91.5	87.5	92.0	92.0	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD121_210422	0874_SD014_210422	0874_QC108_210422	0874_SD114_210422	----
		Sampling date / time		22-Apr-2021 13:15	22-Apr-2021 14:40	22-Apr-2021 14:41	22-Apr-2021 15:37	----
Compound	CAS Number	LOR	Unit	EB2111376-021	EB2111376-025	EB2111376-026	EB2111376-030	-----
				Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	40.6	14.1	29.7	21.9	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0009	<0.0002	<0.0002	<0.0002	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	<0.0002	<0.0002	<0.0002	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0044	<0.0002	<0.0002	0.0005	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	<0.0002	<0.0002	<0.0002	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0539	0.0005	0.0010	0.0067	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0010	<0.0002	<0.0002	<0.0002	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	<0.0002	<0.0002	<0.0002	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	<0.0002	<0.0002	<0.0002	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0006	<0.0002	<0.0002	<0.0002	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0002	<0.0002	0.0003	<0.0002	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD121_210422	0874_SD014_210422	0874_QC108_210422	0874_SD114_210422	----
Sampling date / time				22-Apr-2021 13:15	22-Apr-2021 14:40	22-Apr-2021 14:41	22-Apr-2021 15:37	----	----
Compound	CAS Number	LOR	Unit	EB2111376-021	EB2111376-025	EB2111376-026	EB2111376-030	-----	----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0636	0.0005	0.0013	0.0072	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0583	0.0005	0.0010	0.0072	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0615	0.0005	0.0010	0.0072	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.0	98.0	88.0	78.5	----	----
13C8-PFOA	----	0.0002	%	94.0	91.5	96.5	92.0	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW126_210422	0874_SW125_210422	0874_SW102_210422	0874_SW013_210422	0874_SW016_210422
				Sampling date / time	22-Apr-2021 09:26	22-Apr-2021 09:56	22-Apr-2021 10:23	22-Apr-2021 10:49	22-Apr-2021 11:06
Compound	CAS Number	LOR	Unit	EB2111376-002	EB2111376-004	EB2111376-006	EB2111376-008	EB2111376-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.75	0.40	0.80	0.16	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.52	0.43	0.79	0.08	0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.18	2.56	3.75	0.47	0.34	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.11	0.16	0.08	<0.02	0.19	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.10	3.78	0.90	0.19	0.61	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.1	0.1	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.26	0.22	0.19	0.05	0.30	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.03	1.21	1.22	0.19	0.14	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.08	0.10	0.02	0.51	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	0.12	0.09	0.03	0.03	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW126_210422	0874_SW125_210422	0874_SW102_210422	0874_SW013_210422	0874_SW016_210422
Sampling date / time				22-Apr-2021 09:26	22-Apr-2021 09:56	22-Apr-2021 10:23	22-Apr-2021 10:49	22-Apr-2021 11:06	
Compound	CAS Number	LOR	Unit	EB2111376-002	EB2111376-004	EB2111376-006	EB2111376-008	EB2111376-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	7.37	9.06	8.02	1.19	2.43	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.28	6.34	4.65	0.66	0.95	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.74	8.47	7.15	1.11	2.19	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.1	112	98.9	105	96.3	
13C8-PFOA	----	0.02	%	99.6	97.5	92.9	97.9	94.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_210422	0874_SW019_210422	0874_SW010_210422	0874_SW001_210422	0874_SW132_210422
				Sampling date / time	22-Apr-2021 11:19	22-Apr-2021 11:48	22-Apr-2021 12:14	22-Apr-2021 12:28	22-Apr-2021 12:39
Compound	CAS Number	LOR	Unit	EB2111376-012	EB2111376-014	EB2111376-016	EB2111376-018	EB2111376-019	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.29	0.39	0.09	0.14	0.38	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.58	0.43	0.07	0.14	0.41	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	6.76	2.94	0.43	0.81	2.09	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.75	0.37	0.02	0.06	0.18	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.42	5.63	0.73	1.56	3.20	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.2	0.1	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.54	0.28	0.26	0.12	0.20	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.26	1.07	0.31	0.34	0.85	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.31	0.15	0.22	0.11	0.20	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.49	0.29	0.22	0.14	0.28	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.04	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_210422	0874_SW019_210422	0874_SW010_210422	0874_SW001_210422	0874_SW132_210422
Sampling date / time				22-Apr-2021 11:19	22-Apr-2021 11:48	22-Apr-2021 12:14	22-Apr-2021 12:28	22-Apr-2021 12:39	
Compound	CAS Number	LOR	Unit	EB2111376-012	EB2111376-014	EB2111376-016	EB2111376-018	EB2111376-019	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.06	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.06	0.12	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	20.8	11.9	2.54	3.42	7.89	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	13.2	8.57	1.16	2.37	5.29	
Sum of PFAS (WA DER List)	----	0.01	µg/L	18.4	11.1	2.42	3.22	7.30	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	111	102	108	101	
13C8-PFOA	----	0.02	%	91.5	97.6	95.2	99.4	97.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_210422	0874_SW127_210422	0874_QC107_210422	0874_SW014_210422	0874_SW119_210422
Sampling date / time				22-Apr-2021 13:16	22-Apr-2021 14:08	22-Apr-2021 14:29	22-Apr-2021 14:29	22-Apr-2021 15:07	
Compound	CAS Number	LOR	Unit	EB2111376-022	EB2111376-023	EB2111376-024	EB2111376-027	EB2111376-028	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.03	<0.02	<0.02	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	<0.02	<0.02	<0.02	0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.29	0.02	<0.02	<0.02	0.26	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.49	0.03	0.03	0.02	0.47	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	<0.02	<0.02	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	<0.02	<0.02	<0.02	0.11	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	<0.01	<0.01	0.03	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_210422	0874_SW127_210422	0874_QC107_210422	0874_SW014_210422	0874_SW119_210422
Sampling date / time					22-Apr-2021 13:16	22-Apr-2021 14:08	22-Apr-2021 14:29	22-Apr-2021 14:29	22-Apr-2021 15:07
Compound	CAS Number	LOR	Unit	EB2111376-022	EB2111376-023	EB2111376-024	EB2111376-027	EB2111376-028	EB2111376-028
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.04	0.08	0.03	0.02	1.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.78	0.05	0.03	0.02	0.73	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.98	0.08	0.03	0.02	0.98	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.6	104	101	104	106	
13C8-PFOA	----	0.02	%	91.4	95.8	96.3	99.1	95.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW114_210422	0874_MW268_210422	0874_MW263_210422	0874_QC109_210422	0874_MW270_210422
Sampling date / time					22-Apr-2021 15:29	22-Apr-2021 16:11	22-Apr-2021 16:35	22-Apr-2021 16:36	22-Apr-2021 16:55
Compound	CAS Number	LOR	Unit	EB2111376-029	EB2111376-031	EB2111376-032	EB2111376-033	EB2111376-034	EB2111376-034
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.75	0.64	0.61	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	<0.01	0.60	0.49	0.61	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.71	0.61	0.61	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	100	99.6	106	106	98.5
13C8-PFOA	----	0.02	%	96.6	95.4	96.2	96.2	96.2	96.4



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID		0874_QC304_210422	0874_QC502_210422	----	----	----
			Sampling date / time		22-Apr-2021 17:01	22-Apr-2021 17:34	----	----	----
Compound	CAS Number	LOR	Unit	EB2111376-035		EB2111376-036		-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC304_210422	0874_QC502_210422	----	----	----
Sampling date / time				22-Apr-2021 17:01	22-Apr-2021 17:34	----	----	----	
Compound	CAS Number	LOR	Unit	EB2111376-035	EB2111376-036	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	100	----	----	----	
13C8-PFOA	----	0.02	%	96.9	96.0	----	----	----	



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids

QUALITY CONTROL REPORT

Work Order : EB2111376 Client : AECOM Australia Pty Ltd Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Project : QLD_0874_PFASOMP Order number : 60612487_2.1 C-O-C number : 21887 Sampler : [REDACTED] Site : QLD_0874 Quote number : TV/007/21 - Compass No. of samples received : 36 No. of samples analysed : 36	Page : 1 of 15 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 27-Apr-2021 Date Analysis Commenced : 03-May-2021 Issue Date : 07-May-2021
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
[REDACTED]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[REDACTED]	LCMS Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3658182)									
EB2111376-005	0874_SD102_210422	EA055: Moisture Content	----	0.1	%	33.0	31.0	6.34	0% - 20%
EB2111376-030	0874_SD114_210422	EA055: Moisture Content	----	0.1	%	21.9	21.9	0.00	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3655332)									
EB2111376-003	0874_SD125_210422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0017	0.0014	15.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0025	0.0021	16.2	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0248	0.0233	6.10	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0019	0.0018	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0534	0.0622	15.2	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0005	0.0003	37.0	No Limit
EB2111376-021	0874_SD121_210422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0009	0.0010	10.2	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	0.0007	33.3	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0044	0.0054	18.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	0.0004	0.00	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0539	0.0591	9.21	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0010	0.0013	29.4	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3655332)									
EB2111376-003	0874_SD125_210422	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0013	0.0012	10.3	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0092	0.0080	14.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0005	0.0004	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0013	0.0010	24.5	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3655332) - continued									
EB2111376-003	0874_SD125_210422	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
EB2111376-021	0874_SD121_210422	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	0.0003	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	0.0011	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0006	0.0007	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.00	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3655332)							
EB2111376-003	0874_SD125_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EB2111376-021	0874_SD121_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3655332)									
EB2111376-003	0874_SD125_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
EB2111376-021	0874_SD121_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.00	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3661457)									
EB2111376-002	0874_SW126_210422	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.10	2.44	14.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.75	0.77	2.04	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.52	0.51	2.34	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.18	2.19	0.00	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.11	0.12	12.5	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EB2111376-022	0874_SW121_210422	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.49	0.50	3.73	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.07	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.29	0.30	5.40	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3661461)									
EB2111376-034	0874_MW270_210422	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
ES2114948-001	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)	
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3661461) - continued										
ES2114948-001	Anonymous	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3661457)										
EB2111376-002	0874_SW126_210422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	0.14	7.57	0% - 50%	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.26	0.29	12.6	0% - 50%	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.03	1.10	6.40	0% - 20%	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.09	0.00	No Limit	
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit	
EB2111376-022	0874_SW121_210422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.00	No Limit	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.00	No Limit	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit	
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit	
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3661461)	EB2111376-034	0874_MW270_210422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit
			EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
			EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
ES2114948-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.00	No Limit	



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3661461) - continued									
ES2114948-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.00	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3661457)									
EB2111376-002	0874_SW126_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2111376-022	0874_SW121_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3661461)									
EB2111376-034	0874_MW270_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3661461) - continued									
EB2111376-034	0874_MW270_210422	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
ES2114948-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3661457)									
EB2111376-002	0874_SW126_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EB2111376-022	0874_SW121_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3661461)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3661461) - continued									
EB2111376-034	0874_MW270_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
ES2114948-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.00	No Limit
EP231P: PFAS Sums (QC Lot: 3661457)									
EB2111376-002	0874_SW126_210422	EP231X: Sum of PFAS	----	0.01	µg/L	7.37	7.85	6.31	0% - 20%
EB2111376-022	0874_SW121_210422	EP231X: Sum of PFAS	----	0.01	µg/L	1.04	1.05	0.957	0% - 20%
EP231P: PFAS Sums (QC Lot: 3661461)									
EB2111376-034	0874_MW270_210422	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit
ES2114948-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.00	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3655332)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.0	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.0	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.0	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.8	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.4	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3655332)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	87.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.4	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.0	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	75.6	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.8	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.6	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3655332)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	95.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	90.1	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	95.8	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.8	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.2	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3655332)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	83.6	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	95.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	98.0	65.0	137



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3655332) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	115	69.2	143

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3661457)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	84.8	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	108	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.25 µg/L	105	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	117	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	101	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	103	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3661461)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	101	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.25 µg/L	94.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	130	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	93.8	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	114	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661457)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	106	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.4	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	100	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661461)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	121	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	114	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	126	71.0	129



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661461) - continued									
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	124	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	124	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3661457)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.8	62.6	147	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	120	66.0	145	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	103	57.6	145	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	102	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3661461)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	96.3	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.8	62.6	147	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	116	66.0	145	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.3	57.6	145	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	120	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	132	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3661457)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	129	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	111	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	111	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	113	71.4	144	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3661461)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	97.0	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	92.0	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	119	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	94.0	71.4	144	



Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3655332)							
EB2111376-003	0874_SD125_210422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	91.2	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	123	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	112	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	113	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3655332)							
EB2111376-003	0874_SD125_210422	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	104	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	121	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	105	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	98.8	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	94.8	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	99.6	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	103	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	123	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	123	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	115	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3655332)							
EB2111376-003	0874_SD125_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	109	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	112	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	101	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	99.2	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	116	65.1	134
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	103	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	103	61.0	139



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3655332)							
EB2111376-003	0874_SD125_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	104	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	116	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	99.2	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	131	69.2	143

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3661457)							
EB2111376-004	0874_SW125_210422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	105	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	115	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	108	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	130	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3661461)							
EB2111376-035	0874_QC304_210422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	107	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	120	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	96.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	138	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661457)							
EB2111376-004	0874_SW125_210422	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	112	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	111	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	121	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	113	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	116	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	127	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	121	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	125	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	116	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	122	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661461)					
EB2111376-035	0874_QC304_210422	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	110	73.0	129



Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
				Low	High		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3661461) - continued							
EB2111376-035	0874_QC304_210422	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	128	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	124	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	127	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	131	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	120	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	123	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	131	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	131	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	133	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	116	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3661457)							
EB2111376-004	0874_SW125_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	106	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	107	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	109	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	105	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	111	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	125	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3661461)							
EB2111376-035	0874_QC304_210422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	101	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	109	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	100	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	104	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	132	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	128	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3661457)							
EB2111376-004	0874_SW125_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	127	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	132	64.0	140

Page : 15 of 15
 Work Order : EB2111376
 Client : AECOM Australia Pty Ltd
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3661457) - continued							
EB2111376-004	0874_SW125_210422	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	116	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	135	71.4	144
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3661461)							
EB2111376-035	0874_QC304_210422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	121	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	112	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	# 150	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2111376	Page	: 1 of 8
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 27-Apr-2021
Site	: QLD_0874	Issue Date	: 07-May-2021
Sampler	: [REDACTED]	No. of samples received	: 36
Order number	: 60612487_2.1	No. of samples analysed	: 36

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111376--003	0874_SD125_210422	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111376--003	0874_SD125_210422	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2111376--003	0874_SD125_210422	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111376--004	0874_SW125_210422	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111376--004	0874_SW125_210422	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2111376--004	0874_SW125_210422	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EB2111376--035	0874_QC304_210422	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	150 %	71.4-144%	Recovery greater than upper data quality objective

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	----	----	----	04-May-2021	06-May-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	03-May-2021	19-Oct-2021	✓	04-May-2021	12-Jun-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	03-May-2021	19-Oct-2021	✓	04-May-2021	12-Jun-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	03-May-2021	19-Oct-2021	✓	04-May-2021	12-Jun-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	03-May-2021	19-Oct-2021	✓	04-May-2021	12-Jun-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0874_SD126_210422,	0874_SD125_210422,	22-Apr-2021	03-May-2021	19-Oct-2021	✓	04-May-2021	12-Jun-2021	✓
0874_SD102_210422,	0874_SD013_210422,							
0874_SD016_210422,	0874_SD123_210422,							
0874_SD019_210422,	0874_SD010_210422,							
0874_SD001_210422,	0874_SD132_210422,							
0874_SD121_210422,	0874_SD014_210422,							
0874_QC108_210422,	0874_SD114_210422							

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW126_210422,	0874_SW125_210422,	22-Apr-2021	06-May-2021	19-Oct-2021	✓	06-May-2021	19-Oct-2021	✓
0874_SW102_210422,	0874_SW013_210422,							
0874_SW016_210422,	0874_SW123_210422,							
0874_SW019_210422,	0874_SW010_210422,							
0874_SW001_210422,	0874_SW132_210422,							
0874_SW121_210422,	0874_SW127_210422,							
0874_QC107_210422,	0874_SW014_210422,							
0874_SW119_210422,	0874_SW114_210422,							
0874_MW268_210422,	0874_MW263_210422,							
0874_QC109_210422,	0874_MW270_210422,							
0874_QC304_210422,	0874_QC502_210422							



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW126_210422,	0874_SW125_210422,	22-Apr-2021	06-May-2021	19-Oct-2021	✓	06-May-2021	19-Oct-2021	✓
0874_SW102_210422,	0874_SW013_210422,							
0874_SW016_210422,	0874_SW123_210422,							
0874_SW019_210422,	0874_SW010_210422,							
0874_SW001_210422,	0874_SW132_210422,							
0874_SW121_210422,	0874_SW127_210422,							
0874_QC107_210422,	0874_SW014_210422,							
0874_SW119_210422,	0874_SW114_210422,							
0874_MW268_210422,	0874_MW263_210422,							
0874_QC109_210422,	0874_MW270_210422,							
0874_QC304_210422,	0874_QC502_210422							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
0874_SW126_210422,	0874_SW125_210422,	22-Apr-2021	06-May-2021	19-Oct-2021	✓	06-May-2021	19-Oct-2021	✓
0874_SW102_210422,	0874_SW013_210422,							
0874_SW016_210422,	0874_SW123_210422,							
0874_SW019_210422,	0874_SW010_210422,							
0874_SW001_210422,	0874_SW132_210422,							
0874_SW121_210422,	0874_SW127_210422,							
0874_QC107_210422,	0874_SW014_210422,							
0874_SW119_210422,	0874_SW114_210422,							
0874_MW268_210422,	0874_MW263_210422,							
0874_QC109_210422,	0874_MW270_210422,							
0874_QC304_210422,	0874_QC502_210422							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW126_210422,	0874_SW125_210422,	22-Apr-2021	06-May-2021	19-Oct-2021	✓	06-May-2021	19-Oct-2021	✓
0874_SW102_210422,	0874_SW013_210422,							
0874_SW016_210422,	0874_SW123_210422,							
0874_SW019_210422,	0874_SW010_210422,							
0874_SW001_210422,	0874_SW132_210422,							
0874_SW121_210422,	0874_SW127_210422,							
0874_QC107_210422,	0874_SW014_210422,							
0874_SW119_210422,	0874_SW114_210422,							
0874_MW268_210422,	0874_MW263_210422,							
0874_QC109_210422,	0874_MW270_210422,							
0874_QC304_210422,	0874_QC502_210422							



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
0874_SW126_210422,	0874_SW125_210422,	22-Apr-2021	06-May-2021	19-Oct-2021	✓	06-May-2021	19-Oct-2021	✓
0874_SW102_210422,	0874_SW013_210422,							
0874_SW016_210422,	0874_SW123_210422,							
0874_SW019_210422,	0874_SW010_210422,							
0874_SW001_210422,	0874_SW132_210422,							
0874_SW121_210422,	0874_SW127_210422,							
0874_QC107_210422,	0874_SW014_210422,							
0874_SW119_210422,	0874_SW114_210422,							
0874_MW268_210422,	0874_MW263_210422,							
0874_QC109_210422,	0874_MW270_210422,							
0874_QC304_210422,	0874_QC502_210422							



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: WATER

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	37	10.81	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	37	5.41	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2111376

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 21887	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 27-Apr-2021 17:00	Issue Date	: 28-Apr-2021
Client Requested Due Date	: 07-May-2021	Scheduled Reporting Date	: 07-May-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 18.2°C - Ice present
Receipt Detail	: Esky	No. of samples received / analysed	: 36 / 36

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **28/04/2021: SRN has been resent to acknowledge the addition of PFAS to all samples submitted for this work order as per email directive from [REDACTED] For any further information regarding these adjustments please contact client services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please be advised that samples with no analysis requested will remain on hold in Sydney. Please contact our client services if analysis is required for these samples.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Sydney, NATA accreditation no. 825, site no 10911.
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2111376-001	22-Apr-2021 09:25	0874_SD126_210422	✓	✓
EB2111376-003	22-Apr-2021 09:57	0874_SD125_210422	✓	✓
EB2111376-005	22-Apr-2021 10:23	0874_SD102_210422	✓	✓
EB2111376-007	22-Apr-2021 10:48	0874_SD013_210422	✓	✓
EB2111376-009	22-Apr-2021 11:06	0874_SD016_210422	✓	✓
EB2111376-011	22-Apr-2021 11:19	0874_SD123_210422	✓	✓
EB2111376-013	22-Apr-2021 11:48	0874_SD019_210422	✓	✓
EB2111376-015	22-Apr-2021 12:13	0874_SD010_210422	✓	✓
EB2111376-017	22-Apr-2021 12:27	0874_SD001_210422	✓	✓
EB2111376-020	22-Apr-2021 12:44	0874_SD132_210422	✓	✓
EB2111376-021	22-Apr-2021 13:15	0874_SD121_210422	✓	✓
EB2111376-025	22-Apr-2021 14:40	0874_SD014_210422	✓	✓
EB2111376-026	22-Apr-2021 14:41	0874_QC108_210422	✓	✓
EB2111376-030	22-Apr-2021 15:37	0874_SD114_210422	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2111376-002	22-Apr-2021 09:26	0874_SW126_210422	✓
EB2111376-004	22-Apr-2021 09:56	0874_SW125_210422	✓
EB2111376-006	22-Apr-2021 10:23	0874_SW102_210422	✓
EB2111376-008	22-Apr-2021 10:49	0874_SW013_210422	✓
EB2111376-010	22-Apr-2021 11:06	0874_SW016_210422	✓
EB2111376-012	22-Apr-2021 11:19	0874_SW123_210422	✓
EB2111376-014	22-Apr-2021 11:48	0874_SW019_210422	✓
EB2111376-016	22-Apr-2021 12:14	0874_SW010_210422	✓
EB2111376-018	22-Apr-2021 12:28	0874_SW001_210422	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2111376-019	22-Apr-2021 12:39	0874_SW132_210422		✓
EB2111376-022	22-Apr-2021 13:16	0874_SW121_210422		✓
EB2111376-023	22-Apr-2021 14:08	0874_SW127_210422		✓
EB2111376-024	22-Apr-2021 14:29	0874_QC107_210422		✓
EB2111376-027	22-Apr-2021 14:29	0874_SW014_210422		✓
EB2111376-028	22-Apr-2021 15:07	0874_SW119_210422		✓
EB2111376-029	22-Apr-2021 15:29	0874_SW114_210422		✓
EB2111376-031	22-Apr-2021 16:11	0874_MW268_210422		✓
EB2111376-032	22-Apr-2021 16:35	0874_MW263_210422		✓
EB2111376-033	22-Apr-2021 16:36	0874_QC109_210422		✓
EB2111376-034	22-Apr-2021 16:55	0874_MW270_210422		✓
EB2111376-035	22-Apr-2021 17:01	0874_QC304_210422		✓
EB2111376-036	22-Apr-2021 17:34	0874_QC502_210422		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2111812**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **22003**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **68**
No. of samples analysed : **68**

Page : 1 of 37
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : **30-Apr-2021 15:30**
Date Analysis Commenced : **07-May-2021**
Issue Date : **14-May-2021 15:21**



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: Sample 0874_MW135_210428 shows poor matrix spike recovery due to matrix interference. Confirmed by re-extraction and re-analysis.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X-INJ PFAS: Samples '0874_MW231_210428' and '0874_MW219_210429' required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X PFAS: Samples "0874_MW467_210427" and "0874_MW110_210429" show poor duplicate results due to sample heterogeneity. Confirmed by re-extraction and re-analysis.
- EP231X PFAS: The LOR of PFPeS and PFHpS for sample "0874_MW467_210427" have been raised due to sample matrix interferences.
- EP231X PFAS by LCMSMS: Sample "0874_MW110_210429" shows inconsistent results between extractions possibly due to PFAS stratification of highly contaminated samples. Confirmed by re-extraction and re-analysis.
- EP231X PFAS: Particular samples required dilution due to sample matrix. LOR values have been adjusted accordingly.
- EP231X-INJ PFAS by LCMSMS: Particular samples have been tested to the legacy QSM 5.1 aligned, NATA accredited method due to sample matrix being unsuitable for SPE extraction (high sediment content).
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.
- EP231X-INJ: The direct injection LCMSMS method may be used where the sample matrix is not suitable for Solid Phase Extraction (e.g. significant particulate load) or where only a single sample container is received.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC503_210427	0874_MW211_210427	0874_MW467_210427	0874_MW233_210427	0874_QC110_210427
Sampling date / time				27-Apr-2021 09:16	27-Apr-2021 09:47	27-Apr-2021 10:09	27-Apr-2021 10:41	27-Apr-2021 10:42	
Compound	CAS Number	LOR	Unit	EB2111812-001	EB2111812-002	EB2111812-003	EB2111812-004	EB2111812-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.05	0.45	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.13	0.18	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.07	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.02	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC503_210427	0874_MW211_210427	0874_MW467_210427	0874_MW233_210427	0874_QC110_210427
Sampling date / time				27-Apr-2021 09:16	27-Apr-2021 09:47	27-Apr-2021 10:09	27-Apr-2021 10:41	27-Apr-2021 10:42	
Compound	CAS Number	LOR	Unit	EB2111812-001	EB2111812-002	EB2111812-003	EB2111812-004	EB2111812-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.18	0.75	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.18	0.63	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.18	0.75	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.9	85.2	92.2	92.0	93.5	
13C8-PFOA	----	0.02	%	99.2	96.1	95.4	90.9	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW252_210427	0874_MW253_210427	0874_MW301_210427	0874_MW206_210427	0874_MW205_210427
Sampling date / time				27-Apr-2021 11:06	27-Apr-2021 11:34	27-Apr-2021 12:05	27-Apr-2021 12:32	27-Apr-2021 12:52	
Compound	CAS Number	LOR	Unit	EB2111812-006	EB2111812-007	EB2111812-008	EB2111812-009	EB2111812-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.03	0.28	0.07	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.34	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.03	0.07	2.92	0.28	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.04	0.03	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.06	0.10	0.09	0.20	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.05	0.11	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.06	0.73	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.06	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.01	0.02	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW252_210427	0874_MW253_210427	0874_MW301_210427	0874_MW206_210427	0874_MW205_210427
Sampling date / time					27-Apr-2021 11:06	27-Apr-2021 11:34	27-Apr-2021 12:05	27-Apr-2021 12:32	27-Apr-2021 12:52
Compound	CAS Number	LOR	Unit	EB2111812-006	EB2111812-007	EB2111812-008	EB2111812-009	EB2111812-010	EB2111812-010
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.09	0.32	4.59	0.67	0.67
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.09	0.17	3.01	0.48	0.48
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.09	0.32	4.21	0.60	0.60
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	88.5	90.5	90.7	86.3	90.6	90.6
13C8-PFOA	----	0.02	%	98.3	96.5	93.1	96.6	103	103



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW204_210427	0874_MW207_210427	0874_MW208_210427	0874_MW213_210427	0874_MW214_210427
Sampling date / time				27-Apr-2021 13:23	27-Apr-2021 13:52	27-Apr-2021 14:41	27-Apr-2021 15:02	27-Apr-2021 15:23	
Compound	CAS Number	LOR	Unit	EB2111812-011	EB2111812-012	EB2111812-013	EB2111812-014	EB2111812-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	<0.02	0.03	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.02	0.02	0.12	0.07	0.18	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.02	0.12	0.11	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.05	<0.02	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW204_210427	0874_MW207_210427	0874_MW208_210427	0874_MW213_210427	0874_MW214_210427
Sampling date / time				27-Apr-2021 13:23	27-Apr-2021 13:52	27-Apr-2021 14:41	27-Apr-2021 15:02	27-Apr-2021 15:23	
Compound	CAS Number	LOR	Unit	EB2111812-011	EB2111812-012	EB2111812-013	EB2111812-014	EB2111812-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.06	0.04	0.35	0.18	0.26	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.04	0.24	0.18	0.22	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.06	0.04	0.35	0.18	0.26	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.9	94.8	94.1	93.5	89.5	
13C8-PFOA	----	0.02	%	100	101	92.7	94.3	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW215_210427	0874_MW216_210427	0874_MW218_210427	0874_QC111_210427	0874_MW238_210427
Sampling date / time				27-Apr-2021 15:43	27-Apr-2021 16:07	27-Apr-2021 16:34	27-Apr-2021 16:35	27-Apr-2021 17:55	
Compound	CAS Number	LOR	Unit	EB2111812-016	EB2111812-017	EB2111812-018	EB2111812-019	EB2111812-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.19	0.37	0.46	0.47	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.37	0.42	0.43	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.19	0.37	0.46	0.47	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.1	99.1	103	109	104	
13C8-PFOA	----	0.02	%	99.6	102	105	102	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_210428	0874_MW237_210428	0874_MW114_210428	0874_MW136_210428	0874_QC112_210428
Sampling date / time				28-Apr-2021 06:58	28-Apr-2021 07:48	28-Apr-2021 08:27	28-Apr-2021 09:23	28-Apr-2021 09:24	
Compound	CAS Number	LOR	Unit	EB2111812-021	EB2111812-022	EB2111812-023	EB2111812-024	EB2111812-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.10	----	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.10	----	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.10	----	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.10	----	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.10	----	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	----	----	----	----	
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	<0.02	0.80	0.03	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	<0.02	1.03	0.02	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	----	<0.02	7.96	0.24	0.27	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	<0.02	0.86	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	<0.01	22.6	0.61	0.50	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	<0.50	----	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.10	----	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.10	----	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.10	----	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.10	----	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	----	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	----	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	----	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_210428	0874_MW237_210428	0874_MW114_210428	0874_MW136_210428	0874_QC112_210428
Sampling date / time				28-Apr-2021 06:58	28-Apr-2021 07:48	28-Apr-2021 08:27	28-Apr-2021 09:23	28-Apr-2021 09:24	
Compound	CAS Number	LOR	Unit	EB2111812-021	EB2111812-022	EB2111812-023	EB2111812-024	EB2111812-025	
				Result	Result	Result	Result	Result	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	----	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	----	----	----	----	
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	----	<0.1	0.3	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	<0.02	0.36	0.03	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	<0.02	1.44	0.08	0.08	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	<0.02	0.21	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	<0.01	0.54	0.02	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	<0.02	0.04	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	----	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	----	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_210428	0874_MW237_210428	0874_MW114_210428	0874_MW136_210428	0874_QC112_210428
Sampling date / time					28-Apr-2021 06:58	28-Apr-2021 07:48	28-Apr-2021 08:27	28-Apr-2021 09:23	28-Apr-2021 09:24
Compound	CAS Number	LOR	Unit	EB2111812-021	EB2111812-022	EB2111812-023	EB2111812-024	EB2111812-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	----	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	----	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	----	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	----	----	----	----	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	<0.05	<0.05	0.18	0.18	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.10	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW231_210428	0874_MW237_210428	0874_MW114_210428	0874_MW136_210428	0874_QC112_210428
Sampling date / time				28-Apr-2021 06:58	28-Apr-2021 07:48	28-Apr-2021 08:27	28-Apr-2021 09:23	28-Apr-2021 09:24	
Compound	CAS Number	LOR	Unit	EB2111812-021	EB2111812-022	EB2111812-023	EB2111812-024	EB2111812-025	
				Result	Result	Result	Result	Result	
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.10	----	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.10	----	----	----	----	
Sum of PFAS	----	0.01	µg/L	----	<0.01	36.1	1.21	1.15	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	<0.01	30.6	0.85	0.77	
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	<0.01	34.2	1.19	1.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	----	102	95.9	112	95.0	
13C4-PFOS	----	0.02	%	108	----	----	----	----	
13C8-PFOA	----	0.02	%	----	101	101	102	102	
13C8-PFOA	----	0.02	%	98.8	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW265_210428	0874_MW004_210428	0874_MW241_210428	0874_MW122_210428	0874_MW002_210428
Sampling date / time				28-Apr-2021 09:47	28-Apr-2021 10:03	28-Apr-2021 10:19	28-Apr-2021 10:56	28-Apr-2021 11:16	
Compound	CAS Number	LOR	Unit	EB2111812-026	EB2111812-027	EB2111812-028	EB2111812-029	EB2111812-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.24	0.03	0.39	0.06	0.78	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	<0.02	0.32	0.02	0.62	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.37	0.04	2.34	0.12	3.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.05	<0.02	0.09	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	<0.02	0.45	0.04	1.53	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.05	<0.02	0.25	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	<0.02	0.20	0.04	1.20	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.02	<0.01	0.10	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW265_210428	0874_MW004_210428	0874_MW241_210428	0874_MW122_210428	0874_MW002_210428
Sampling date / time				28-Apr-2021 09:47	28-Apr-2021 10:03	28-Apr-2021 10:19	28-Apr-2021 10:56	28-Apr-2021 11:16	
Compound	CAS Number	LOR	Unit	EB2111812-026	EB2111812-027	EB2111812-028	EB2111812-029	EB2111812-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.90	0.07	3.92	0.28	7.86	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.45	0.04	2.79	0.16	4.54	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.79	0.07	3.55	0.26	7.15	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	106	95.3	97.4	100	
13C8-PFOA	----	0.02	%	98.9	102	102	102	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_210428	0874_MW057_210428	0874_MW046_210428	0874_QC113_210428	0874_MW090_210428
Sampling date / time				28-Apr-2021 11:36	28-Apr-2021 12:37	28-Apr-2021 13:35	28-Apr-2021 13:36	28-Apr-2021 14:02	
Compound	CAS Number	LOR	Unit	EB2111812-031	EB2111812-032	EB2111812-033	EB2111812-034	EB2111812-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	----	----	----	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	----	----	----	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	----	----	----	----	0.19	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	----	----	----	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	----	----	----	0.29	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	----	----	----	<0.02	
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.38	1.54	4.96	5.04	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.29	1.45	8.91	9.09	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.82	6.43	123	126	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.30	9.00	8.17	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	3.07	93.5	90.0	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	----	----	----	----	<0.10	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	----	----	----	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	----	----	----	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	----	----	----	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	----	----	----	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	----	----	----	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	----	----	----	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	----	----	----	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	----	----	----	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_210428	0874_MW057_210428	0874_MW046_210428	0874_QC113_210428	0874_MW090_210428
Sampling date / time				28-Apr-2021 11:36	28-Apr-2021 12:37	28-Apr-2021 13:35	28-Apr-2021 13:36	28-Apr-2021 14:02	
Compound	CAS Number	LOR	Unit	EB2111812-031	EB2111812-032	EB2111812-033	EB2111812-034	EB2111812-035	
				Result	Result	Result	Result	Result	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	----	----	----	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	----	----	----	<0.05	
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.3	<2.2	<2.2	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.72	3.87	4.00	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.14	3.33	36.2	36.2	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.17	2.56	2.70	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.17	6.22	6.56	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<1.09	<1.09	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	----	----	----	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	----	----	----	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	----	----	----	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	----	----	----	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	----	----	----	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	----	----	----	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	----	----	----	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_210428	0874_MW057_210428	0874_MW046_210428	0874_QC113_210428	0874_MW090_210428
Sampling date / time				28-Apr-2021 11:36	28-Apr-2021 12:37	28-Apr-2021 13:35	28-Apr-2021 13:36	28-Apr-2021 14:02	
Compound	CAS Number	LOR	Unit	EB2111812-031	EB2111812-032	EB2111812-033	EB2111812-034	EB2111812-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<1.09	<1.09	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<1.09	<1.09	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<1.09	<1.09	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<1.09	<1.09	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.43	<0.43	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	----	----	----	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	----	----	----	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	----	----	----	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	----	----	----	<0.05	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.43	<0.43	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.07	<0.43	<0.43	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.43	<0.43	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.43	<0.43	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	----	----	----	----	0.51	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW135_210428	0874_MW057_210428	0874_MW046_210428	0874_QC113_210428	0874_MW090_210428
Sampling date / time				28-Apr-2021 11:36	28-Apr-2021 12:37	28-Apr-2021 13:35	28-Apr-2021 13:36	28-Apr-2021 14:02	
Compound	CAS Number	LOR	Unit	EB2111812-031	EB2111812-032	EB2111812-033	EB2111812-034	EB2111812-035	
				Result	Result	Result	Result	Result	
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	----	----	----	0.48	
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	----	----	----	0.51	
Sum of PFAS	----	0.01	µg/L	1.75	17.6	288	288	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.90	9.50	216	216	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.46	15.8	270	270	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.0	102	106	93.1	----	
13C4-PFOS	----	0.02	%	----	----	----	----	96.7	
13C8-PFOA	----	0.02	%	93.1	103	100	102	----	
13C8-PFOA	----	0.02	%	----	----	----	----	99.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW081_210428	0874_MW054_210428	0874_MW055_210428	0874_QC306_210428	0874_MW269_210429
Sampling date / time				28-Apr-2021 14:20	28-Apr-2021 14:36	28-Apr-2021 14:48	28-Apr-2021 14:52	29-Apr-2021 07:45	
Compound	CAS Number	LOR	Unit	EB2111812-036	EB2111812-037	EB2111812-038	EB2111812-039	EB2111812-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	220	2.48	6.68	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	630	3.28	11.1	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	7230	15.4	64.4	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	610	1.24	4.04	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4160	50.7	170	<0.01	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	28.1	<2.4	<2.3	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	99.5	1.33	5.09	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	953	4.62	20.4	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	154	0.52	3.27	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	369	1.14	8.14	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<5.81	<1.19	<1.14	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<5.81	<1.19	<1.14	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<5.81	<1.19	<1.14	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW081_210428	0874_MW054_210428	0874_MW055_210428	0874_QC306_210428	0874_MW269_210429
Sampling date / time				28-Apr-2021 14:20	28-Apr-2021 14:36	28-Apr-2021 14:48	28-Apr-2021 14:52	29-Apr-2021 07:45	
Compound	CAS Number	LOR	Unit	EB2111812-036	EB2111812-037	EB2111812-038	EB2111812-039	EB2111812-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<5.81	<1.19	<1.14	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<5.81	<1.19	<1.14	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.32	<0.48	<0.45	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.32	<0.48	<0.45	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<2.32	<0.48	<0.45	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<2.32	<0.48	<0.45	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<2.32	<0.48	<0.45	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	14400	80.7	293	<0.01	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11400	66.1	234	<0.01	0.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	13200	76.2	278	<0.01	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.7	111	104	109	111	
13C8-PFOA	----	0.02	%	103	106	106	105	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW217_210429	0874_QC114_210429	0874_MW219_210429	0874_MW266_210429	0874_MW267_210429
Sampling date / time				29-Apr-2021 08:10	29-Apr-2021 08:33	29-Apr-2021 08:50	29-Apr-2021 09:21	29-Apr-2021 09:40	
Compound	CAS Number	LOR	Unit	EB2111812-041	EB2111812-042	EB2111812-043	EB2111812-044	EB2111812-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	0.31	<0.02	----	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	0.33	<0.02	----	0.06	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	----	1.74	<0.02	----	0.31	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	0.09	<0.02	----	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	1.02	<0.02	----	0.23	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	<0.02	<0.02	----	<0.02	
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	----	----	<0.02	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	<0.02	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	<0.01	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	----	0.11	<0.10	----	<0.10	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	0.08	<0.02	----	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	0.41	<0.02	----	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	0.05	<0.02	----	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	0.07	<0.02	----	0.03	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	<0.02	<0.02	----	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	<0.02	<0.02	----	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	<0.02	<0.02	----	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	<0.02	<0.02	----	<0.02	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW217_210429	0874_QC114_210429	0874_MW219_210429	0874_MW266_210429	0874_MW267_210429
Sampling date / time					29-Apr-2021 08:10	29-Apr-2021 08:33	29-Apr-2021 08:50	29-Apr-2021 09:21	29-Apr-2021 09:40
Compound	CAS Number	LOR	Unit		EB2111812-041	EB2111812-042	EB2111812-043	EB2111812-044	EB2111812-045
				Result	Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	<0.02	<0.02	<0.02	----	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	<0.05	<0.05	<0.05	----	<0.05
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	<0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	<0.02	<0.02	<0.02	----	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	<0.05	<0.05	<0.05	----	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	<0.05	<0.05	<0.05	----	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	<0.05	<0.05	<0.05	----	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	<0.05	<0.05	<0.05	----	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	<0.02	<0.02	<0.02	----	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	<0.02	<0.02	<0.02	----	<0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW217_210429	0874_QC114_210429	0874_MW219_210429	0874_MW266_210429	0874_MW267_210429
Sampling date / time				29-Apr-2021 08:10	29-Apr-2021 08:33	29-Apr-2021 08:50	29-Apr-2021 09:21	29-Apr-2021 09:40	
Compound	CAS Number	LOR	Unit	EB2111812-041	EB2111812-042	EB2111812-043	EB2111812-044	EB2111812-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	<0.05	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	<0.05	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	<0.05	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	<0.02	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	<0.02	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	<0.05	<0.05	----	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	<0.05	<0.05	----	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	<0.05	<0.05	----	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	<0.05	<0.05	----	<0.05	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	<0.05	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	<0.05	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	<0.05	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	<0.05	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	----	4.21	<0.02	----	0.84	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW217_210429	0874_QC114_210429	0874_MW219_210429	0874_MW266_210429	0874_MW267_210429
Sampling date / time					29-Apr-2021 08:10	29-Apr-2021 08:33	29-Apr-2021 08:50	29-Apr-2021 09:21	29-Apr-2021 09:40
Compound	CAS Number	LOR	Unit	EB2111812-041	EB2111812-042	EB2111812-043	EB2111812-044	EB2111812-045	EB2111812-045
				Result	Result	Result	Result	Result	Result
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	2.76	<0.02	----	0.54	0.54
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	3.79	<0.02	----	0.78	0.78
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	0.02	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	0.02	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	----	----	104	----	----
13C4-PFOS	----	0.02	%	----	113	110	----	102	102
13C8-PFOA	----	0.02	%	103	----	----	99.9	----	----
13C8-PFOA	----	0.02	%	----	99.8	108	----	100	100



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW261_210429	0874_MW225_210429	0874_MW015_210429	0874_MW021_210429	0874_MW139_210429
Sampling date / time				29-Apr-2021 10:01	29-Apr-2021 10:26	29-Apr-2021 11:11	29-Apr-2021 11:31	29-Apr-2021 12:09	
Compound	CAS Number	LOR	Unit	EB2111812-046	EB2111812-047	EB2111812-048	EB2111812-049	EB2111812-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.04	119	618	53.0	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.04	189	943	47.0	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.34	1440	15400	407	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.02	67.8	1100	64.0	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.28	440	10700	1520	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	26.3	269	<50.0	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	59.3	414	36.0	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	349	2340	161	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	39.1	320	29.0	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	59.6	803	57.0	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<5.43	<25.0	<25.0	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<5.43	<25.0	<25.0	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<5.43	<25.0	<25.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW261_210429	0874_MW225_210429	0874_MW015_210429	0874_MW021_210429	0874_MW139_210429
Sampling date / time				29-Apr-2021 10:01	29-Apr-2021 10:26	29-Apr-2021 11:11	29-Apr-2021 11:31	29-Apr-2021 12:09	
Compound	CAS Number	LOR	Unit	EB2111812-046	EB2111812-047	EB2111812-048	EB2111812-049	EB2111812-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<5.43	<25.0	<25.0	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<5.43	<25.0	<25.0	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<2.17	<10.0	<10.0	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<2.17	<10.0	<10.0	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<2.17	<10.0	27.0	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<2.17	<10.0	<10.0	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<2.17	<10.0	<10.0	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.78	2790	32900	2400	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.62	1880	26100	1930	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.72	2530	30900	2290	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.3	107	104	98.7	98.8	
13C8-PFOA	----	0.02	%	103	102	103	98.8	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC115_210429	0874_MW138_210429	0874_MW109_210429	0874_MW110_210429	0874_MW251_210429
Sampling date / time					29-Apr-2021 12:09	29-Apr-2021 12:22	29-Apr-2021 12:34	29-Apr-2021 12:47	29-Apr-2021 13:09
Compound	CAS Number	LOR	Unit	EB2111812-051	EB2111812-052	EB2111812-053	EB2111812-054	EB2111812-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	62.0	8.60	18.0	2.20	1.48	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	62.0	8.60	16.0	3.30	1.20	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	450	56.0	139	85.7	6.76	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	52.0	3.30	14.2	4.20	0.27	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2210	83.1	404	109	1.75	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<50.0	5.2	10.0	<5.0	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	42.0	5.60	9.60	6.60	0.40	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	193	19.4	48.6	15.2	2.34	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	36.0	2.20	6.60	2.20	0.21	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	59.0	2.90	11.4	4.50	0.24	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<25.0	<2.50	<5.00	<2.50	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<25.0	<2.50	<5.00	<2.50	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<25.0	<2.50	<5.00	<2.50	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC115_210429	0874_MW138_210429	0874_MW109_210429	0874_MW110_210429	0874_MW251_210429
Sampling date / time					29-Apr-2021 12:09	29-Apr-2021 12:22	29-Apr-2021 12:34	29-Apr-2021 12:47	29-Apr-2021 13:09
Compound	CAS Number	LOR	Unit		EB2111812-051	EB2111812-052	EB2111812-053	EB2111812-054	EB2111812-055
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<25.0	<2.50	<5.00	<2.50	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<25.0	<2.50	<5.00	<2.50	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	28.0	<1.00	2.00	<1.00	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<10.0	<1.00	<2.00	<1.00	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3190	195	679	233	14.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2660	139	543	195	8.51	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3080	183	649	225	13.2	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	118	113	126	117	109	
13C8-PFOA	----	0.02	%	101	102	100	101	98.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW005_210429	0874_MW009_210429	0874_MW247_210429	0874_MW043_210429	0874_MW125_210429
Sampling date / time				29-Apr-2021 13:28	29-Apr-2021 13:44	29-Apr-2021 14:11	29-Apr-2021 14:39	29-Apr-2021 15:03	
Compound	CAS Number	LOR	Unit	EB2111812-056	EB2111812-057	EB2111812-058	EB2111812-059	EB2111812-060	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	38.0	1.29	1.50	2.40	11.0	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	41.0	1.31	2.00	3.10	11.0	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	757	10.3	28.0	80.7	185	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	37.0	0.85	3.20	4.30	11.0	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	373	16.6	121	168	611	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<50.0	<0.5	<5.0	<5.0	<50.0	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	27.0	0.58	1.50	2.00	10.0	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	148	2.91	7.30	11.2	45.0	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	19.0	0.45	<1.00	1.90	<10.0	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	25.0	1.11	2.40	5.60	<10.0	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<25.0	<0.25	<2.50	<2.50	<25.0	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<10.0	0.19	<1.00	<1.00	<10.0	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<25.0	<0.25	<2.50	<2.50	<25.0	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<25.0	<0.25	<2.50	<2.50	<25.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW005_210429	0874_MW009_210429	0874_MW247_210429	0874_MW043_210429	0874_MW125_210429
Sampling date / time				29-Apr-2021 13:28	29-Apr-2021 13:44	29-Apr-2021 14:11	29-Apr-2021 14:39	29-Apr-2021 15:03	
Compound	CAS Number	LOR	Unit	EB2111812-056	EB2111812-057	EB2111812-058	EB2111812-059	EB2111812-060	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<25.0	<0.25	<2.50	<2.50	<25.0	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<25.0	<0.25	<2.50	<2.50	<25.0	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<10.0	<0.10	<1.00	<1.00	<10.0	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1460	35.6	167	279	884	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1130	26.9	149	249	796	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1390	33.2	162	272	862	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.9	113	110	116	102	
13C8-PFOA	----	0.02	%	104	97.4	99.7	100	95.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW038_210429	0874_MW116_210429	0874_MW126_210429	0874_QC305_210427	0874_QC307_210429
Sampling date / time					29-Apr-2021 15:25	29-Apr-2021 15:52	29-Apr-2021 16:09	27-Apr-2021 06:00	29-Apr-2021 16:20
Compound	CAS Number	LOR	Unit	EB2111812-061	EB2111812-062	EB2111812-063	EB2111812-064	EB2111812-065	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.33	6.22	26.3	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.34	5.35	27.3	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.58	20.1	137	<0.02	0.05	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.21	1.06	8.90	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.02	27.4	154	<0.01	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	2.4	9.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	2.64	13.2	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.48	12.3	77.8	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	2.43	15.0	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.16	3.43	25.9	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.25	<2.50	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.25	<2.50	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.25	<2.50	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW038_210429	0874_MW116_210429	0874_MW126_210429	0874_QC305_210427	0874_QC307_210429
Sampling date / time					29-Apr-2021 15:25	29-Apr-2021 15:52	29-Apr-2021 16:09	27-Apr-2021 06:00	29-Apr-2021 16:20
Compound	CAS Number	LOR	Unit	EB2111812-061	EB2111812-062	EB2111812-063	EB2111812-064	EB2111812-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.25	<2.50	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.25	<2.50	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.10	<1.00	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.10	<1.00	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.10	<1.00	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.10	<1.00	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.10	<1.00	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	10.4	83.3	494	<0.01	0.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	8.60	47.5	291	<0.01	0.09	
Sum of PFAS (WA DER List)	----	0.01	µg/L	9.81	76.9	458	<0.01	0.09	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	122	119	111	114	115	
13C8-PFOA	----	0.02	%	101	102	102	101	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW240_210427	0874_MW221_210429	0874_MW016_210429	----	----
Sampling date / time				27-Apr-2021 17:30	29-Apr-2021 08:30	29-Apr-2021 11:20	----	----	
Compound	CAS Number	LOR	Unit	EB2111812-066	EB2111812-067	EB2111812-068	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.33	21.4	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.28	24.4	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	1.78	247	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.08	14.6	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	1.08	153	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	7.5	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.08	11.2	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.44	54.0	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.04	6.90	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.07	12.7	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<2.50	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<2.50	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<2.50	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW240_210427	0874_MW221_210429	0874_MW016_210429	----	----
Sampling date / time				27-Apr-2021 17:30	29-Apr-2021 08:30	29-Apr-2021 11:20	----	----	
Compound	CAS Number	LOR	Unit	EB2111812-066	EB2111812-067	EB2111812-068	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<2.50	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<2.50	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<1.00	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<1.00	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<1.00	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<1.00	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<1.00	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	4.18	553	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	2.86	400	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	3.82	514	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	120	112	97.8	----	----	
13C8-PFOA	----	0.02	%	99.3	97.1	101	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2111812
Client : AECOM Australia Pty Ltd
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 22003
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 68
No. of samples analysed : 68

Page : 1 of 20
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 30-Apr-2021
Date Analysis Commenced : 07-May-2021
Issue Date : 14-May-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], 2IC Organic Chemist, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663549)									
EB2111812-003	0874_MW467_210427	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.18	0.16	8.3	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.04	<0.02	66.7	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.45	# 0.28	47.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.04	<0.02	66.7	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2111812-014	0874_MW213_210427	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.11	0.08	35.9	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.07	0.03	87.7	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663550)									
EB2111812-022	0874_MW237_210428	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663552)									
EB2111812-036	0874_MW081_210428	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4160	3420	19.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	220	243	10.1	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	630	699	10.4	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	7230	7460	3.1	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663552) - continued									
EB2111812-036	0874_MW081_210428	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	610	617	1.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.32	<2.44	4.8	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663553)									
EB2111812-054	0874_MW110_210429	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	109	125	13.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.20	3.25	38.5	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.30	3.83	15.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	85.7	99.8	15.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	4.20	5.33	23.8	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<1.00	<0.83	18.2	No Limit
EB2111812-059	0874_MW043_210429	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	168	142	16.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.40	2.30	4.3	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.10	3.40	9.2	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	80.7	76.2	5.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	4.30	3.90	9.8	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<1.00	<1.00	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3668304)									
EB2111812-021	0874_MW231_210428	EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.10	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663549)									
EB2111812-003	0874_MW467_210427	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.07	0.04	40.9	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663549) - continued									
EB2111812-014	0874_MW213_210427	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663550)									
EB2111812-022	0874_MW237_210428	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663552)									
EB2111812-036	0874_MW081_210428	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	369	372	0.9	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	99.5	103	3.1	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	953	951	0.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	154	163	5.7	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<5.81	<6.10	4.8	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	28.1	27.8	1.2	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663553)									
EB2111812-054	0874_MW110_210429	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	4.50	5.92	27.2	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	6.60	7.33	10.5	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	15.2	# 21.0	32.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	2.20	1.92	13.8	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663553) - continued											
EB2111812-054	0874_MW110_210429	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<1.00	<0.83	18.2	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<1.00	<0.83	18.2	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<1.00	<0.83	18.2	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<1.00	<0.83	18.2	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<1.00	<0.83	18.2	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.50	<2.08	18.2	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<5.0	5.4	8.0	No Limit		
EB2111812-059	0874_MW043_210429	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	5.60	5.10	9.3	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.00	2.10	4.9	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	11.2	10.8	3.6	0% - 50%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.90	1.60	17.1	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<1.00	<1.00	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.50	<2.50	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<5.0	<5.0	0.0	No Limit		
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3668304)									
		EB2111812-021	0874_MW231_210428	EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.10	<0.10	0.0	No Limit
EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.10	<0.10	0.0	No Limit		
EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.50	<0.50	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663549)											
EB2111812-003	0874_MW467_210427			EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit		



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663549) - continued									
EB2111812-003	0874_MW467_210427	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2111812-014	0874_MW213_210427	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663550)									
EB2111812-022	0874_MW237_210428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663552)									
EB2111812-036	0874_MW081_210428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<5.81	<6.10	4.8	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663552) - continued									
EB2111812-036	0874_MW081_210428	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<5.81	<6.10	4.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<5.81	<6.10	4.8	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<5.81	<6.10	4.8	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663553)									
EB2111812-054	0874_MW110_210429	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.50	<2.08	18.2	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.50	<2.08	18.2	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.50	<2.08	18.2	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.50	<2.08	18.2	No Limit
EB2111812-059	0874_MW043_210429	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.50	<2.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.50	<2.50	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3668304)									
EB2111812-021	0874_MW231_210428	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3668304) - continued									
EB2111812-021	0874_MW231_210428	EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663549)									
EB2111812-003	0874_MW467_210427	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2111812-014	0874_MW213_210427	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663550)									
EB2111812-022	0874_MW237_210428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663552)									
EB2111812-036	0874_MW081_210428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<2.32	<2.44	4.8	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<2.32	<2.44	4.8	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663552) - continued									
EB2111812-036	0874_MW081_210428	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<2.32	<2.44	4.8	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663553)									
EB2111812-054	0874_MW110_210429	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<1.00	<0.83	18.2	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<1.00	<0.83	18.2	No Limit
EB2111812-059	0874_MW043_210429	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<1.00	<1.00	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<1.00	<1.00	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3668304)									
EB2111812-021	0874_MW231_210428	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.10	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3663549)									
EB2111812-003	0874_MW467_210427	EP231X: Sum of PFAS	----	0.01	µg/L	0.75	# 0.51	38.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.63	# 0.44	35.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.75	# 0.51	38.1	0% - 20%
EB2111812-014	0874_MW213_210427	EP231X: Sum of PFAS	----	0.01	µg/L	0.18	0.11	48.3	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.18	0.11	48.3	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.18	0.11	48.3	0% - 50%
EP231P: PFAS Sums (QC Lot: 3663550)									
EB2111812-022	0874_MW237_210428	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 3663550) - continued									
EB2111812-022	0874_MW237_210428	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3663552)									
EB2111812-036	0874_MW081_210428	EP231X: Sum of PFAS	----	0.01	µg/L	14400	14000	2.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11400	10900	4.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	13200	12700	3.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 3663553)									
EB2111812-054	0874_MW110_210429	EP231X: Sum of PFAS	----	0.01	µg/L	233	279	17.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	195	225	14.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	225	270	17.9	0% - 20%
EB2111812-059	0874_MW043_210429	EP231X: Sum of PFAS	----	0.01	µg/L	279	247	12.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	249	218	13.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	272	240	12.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 3668304)									
EB2111812-021	0874_MW231_210428	EP231X-INJ: Sum of PFAS	----	0.01	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.10	<0.10	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663549)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	115	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	117	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	108	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	108	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.9	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663550)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	114	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	103	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	87.4	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	91.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	117	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663552)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	94.4	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	105	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	126	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	101	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	82.0	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663553)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	111	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	112	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	96.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	97.8	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	105	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3668304)									
EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.444 µg/L	80.2	72.0	130	
EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.47 µg/L	79.4	71.0	127	
EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.475 µg/L	83.2	68.0	131	
EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.477 µg/L	82.4	69.0	134	
EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.4646 µg/L	80.9	65.0	140	
EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.5 µg/L	76.0	53.0	142	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663549)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	113	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	119	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663550)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.5	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	102	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.0	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	104	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663552)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	85.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.6	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.4	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	86.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.0	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	86.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	98.2	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663553)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	100	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663553) - continued								
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	101	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.4	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3668304)								
EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.10	2.5 µg/L	83.2	73.0	129
EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.5 µg/L	81.2	72.0	129
EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.5 µg/L	80.6	72.0	129
EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.5 µg/L	75.2	72.0	130
EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.5 µg/L	85.8	71.0	133
EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.5 µg/L	77.4	69.0	130
EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.5 µg/L	87.8	71.0	129
EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.5 µg/L	89.4	69.0	133
EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.5 µg/L	81.6	72.0	134
EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.5 µg/L	81.2	65.0	144
EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	1.25 µg/L	78.3	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663549)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.6	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	107	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	120	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	117	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663550)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	108	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	101	68.3	134



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663550) - continued									
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	87.0	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	88.2	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	98.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663552)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	77.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	75.9	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	91.4	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	84.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	81.1	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	93.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663553)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	91.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.8	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	102	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3668304)									
EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.5 µg/L	87.8	67.0	137	
EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	1.25 µg/L	77.4	68.0	141	
EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	1.25 µg/L	88.2	62.1	136	
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	1.25 µg/L	79.7	65.2	135	
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	1.25 µg/L	85.9	63.2	135	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3668304) - continued									
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.5 µg/L	82.4	65.0	136	
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.5 µg/L	76.0	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663549)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	134	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	126	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	107	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663550)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.0	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	106	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663552)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	92.2	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	91.7	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	84.0	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	74.3	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663553)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	97.5	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	111	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	110	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3668304)									
EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.469 µg/L	91.7	63.0	143	
EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.476 µg/L	88.9	64.0	140	
EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.48 µg/L	88.3	67.0	138	
EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.483 µg/L	88.2	62.2	139	
EP231P: PFAS Sums (QCLot: 3663549)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3663550)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3663550) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3663552)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3663553)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3668304)								
EP231X-INJ: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
				MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663549)							
EB2111812-006	0874_MW252_210427	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	110	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	107	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	100	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663550)							
EB2111812-031	0874_MW135_210428	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	75.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# 69.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	82.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.6	65.0	140



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%) Low High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663550) - continued									
EB2111812-031	0874_MW135_210428	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	94.0	53.0	142		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663553)									
EB2111812-055	0874_MW251_210429	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	94.7	72.0	130		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	81.9	71.0	127		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	92.9	68.0	131		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	79.6	69.0	134		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	103	65.0	140		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	90.9	53.0	142		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3668304)									
EB2111812-035	0874_MW090_210428	EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.443 µg/L	79.2	70.0	130		
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.47 µg/L	77.0	70.0	130		
		EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.475 µg/L	78.7	70.0	130		
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.477 µg/L	81.3	70.0	130		
		EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.5 µg/L	70.8	70.0	130		
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.482 µg/L	75.9	70.0	130		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663549)									
EB2111812-006	0874_MW252_210427	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	97.7	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.8	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	98.0	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	106	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	111	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	125	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	128	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	110	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	104	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	107	71.0	132		
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663550)							
		EB2111812-031	0874_MW135_210428	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	83.2	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.25 µg/L	89.1	72.0	129		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.25 µg/L	73.2	72.0	129		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.25 µg/L	86.6	72.0	130		
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.25 µg/L	86.6	71.0	133		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.25 µg/L	80.6	69.0	130		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.25 µg/L	81.4	71.0	129		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.25 µg/L	91.2	69.0	133		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.25 µg/L	91.2	72.0	134		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.25 µg/L	88.4	65.0	144		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663550) - continued							
EB2111812-031	0874_MW135_210428	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	96.2	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663553)							
EB2111812-055	0874_MW251_210429	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	85.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	79.2	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	87.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	87.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	88.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	82.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	79.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	77.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	91.0	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3668304)							
EB2111812-035	0874_MW090_210428	EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	2.5 µg/L	74.8	70.0	130
		EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.5 µg/L	76.6	70.0	130
		EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.5 µg/L	70.2	70.0	130
		EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.5 µg/L	79.2	70.0	130
		EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.5 µg/L	74.4	70.0	130
		EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.5 µg/L	73.2	70.0	130
		EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.5 µg/L	70.6	70.0	130
		EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.5 µg/L	74.0	70.0	130
		EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.5 µg/L	81.4	70.0	130
		EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.5 µg/L	78.2	70.0	130
		EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	1.25 µg/L	80.1	70.0	130
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663549)							
EB2111812-006	0874_MW252_210427	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	102	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	119	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	105	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	107	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	113	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	110	61.0	135



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663550)							
EB2111812-031	0874_MW135_210428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	92.2	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	86.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	83.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	83.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	86.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	95.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663553)							
EB2111812-055	0874_MW251_210429	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	101	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	80.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3668304)							
EB2111812-035	0874_MW090_210428	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.5 µg/L	83.8	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	1.25 µg/L	80.1	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	1.25 µg/L	77.4	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	1.25 µg/L	76.9	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	1.25 µg/L	75.8	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.5 µg/L	74.8	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.5 µg/L	77.4	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663549)							
EB2111812-006	0874_MW252_210427	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	111	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	115	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	115	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	108	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663550)							
EB2111812-031	0874_MW135_210428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	88.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	81.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	100	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	# 146	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663553)							
EB2111812-055	0874_MW251_210429	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	85.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	88.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	94.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	88.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3668304)							
EB2111812-035	0874_MW090_210428	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.468 µg/L	76.9	70.0	130
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.475 µg/L	88.6	70.0	130
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.48 µg/L	85.2	70.0	130
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.483 µg/L	91.7	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2111812	Page	: 1 of 9
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 30-Apr-2021
Site	: QLD_0874	Issue Date	: 14-May-2021
Sampler	: [REDACTED]	No. of samples received	: 68
Order number	: 60612487_2.1	No. of samples analysed	: 68

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111812--003	0874_MW467_210427	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	47.3 %	0% - 20%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	EB2111812--054	0874_MW110_210429	Perfluorohexanoic acid (PFHxA)	307-24-4	32.0 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	EB2111812--003	0874_MW467_210427	Sum of PFAS	----	38.1 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	EB2111812--003	0874_MW467_210427	Sum of PFHxS and PFOS	355-46-4/1763-23-1	35.5 %	0% - 20%	RPD exceeds LOR based limits
EP231P: PFAS Sums	EB2111812--003	0874_MW467_210427	Sum of PFAS (WA DER List)	----	38.1 %	0% - 20%	RPD exceeds LOR based limits

Matrix Spike (MS) Recoveries

EP231A: Perfluoroalkyl Sulfonic Acids	EB2111812--031	0874_MW135_210428	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	69.9 %	71.0-127%	Recovery less than lower data quality objective
EP231A: Perfluoroalkyl Sulfonic Acids	EB2111812--031	0874_MW135_210428	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EB2111812--031	0874_MW135_210428	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	146 %	70.0-130%	Recovery greater than upper data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: WATER

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	6	63	9.52	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	3	63	4.76	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_210427, 0874_MW467_210427, 0874_QC110_210427, 0874_MW253_210427, 0874_MW206_210427, 0874_MW204_210427, 0874_MW208_210427, 0874_MW214_210427,	0874_MW211_210427, 0874_MW233_210427, 0874_MW252_210427, 0874_MW301_210427, 0874_MW205_210427, 0874_MW207_210427, 0874_MW213_210427, 0874_MW215_210427	27-Apr-2021	07-May-2021	24-Oct-2021	✓	09-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW216_210427, 0874_QC111_210427,	0874_MW218_210427, 0874_MW238_210427	27-Apr-2021	10-May-2021	24-Oct-2021	✓	10-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_QC305_210427,	0874_MW240_210427	27-Apr-2021	11-May-2021	24-Oct-2021	✓	11-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW231_210428, 0874_MW114_210428, 0874_QC112_210428, 0874_MW004_210428, 0874_MW122_210428, 0874_MW135_210428, 0874_MW046_210428, 0874_MW090_210428, 0874_MW054_210428, 0874_QC306_210428	0874_MW237_210428, 0874_MW136_210428, 0874_MW265_210428, 0874_MW241_210428, 0874_MW002_210428, 0874_MW057_210428, 0874_QC113_210428, 0874_MW081_210428, 0874_MW055_210428,	28-Apr-2021	10-May-2021	25-Oct-2021	✓	10-May-2021	25-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW269_210429, 0874_QC114_210429, 0874_MW266_210429, 0874_MW261_210429, 0874_MW015_210429	0874_MW217_210429, 0874_MW219_210429, 0874_MW267_210429, 0874_MW225_210429,	29-Apr-2021	10-May-2021	26-Oct-2021	✓	10-May-2021	26-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW021_210429, 0874_QC115_210429, 0874_MW109_210429, 0874_MW251_210429, 0874_MW009_210429, 0874_MW043_210429, 0874_MW038_210429, 0874_MW126_210429, 0874_MW221_210429,	0874_MW139_210429, 0874_MW138_210429, 0874_MW110_210429, 0874_MW005_210429, 0874_MW247_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_QC307_210429, 0874_MW016_210429	29-Apr-2021	11-May-2021	26-Oct-2021	✓	11-May-2021	26-Oct-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_210427, 0874_MW467_210427, 0874_QC110_210427, 0874_MW253_210427, 0874_MW206_210427, 0874_MW204_210427, 0874_MW208_210427, 0874_MW214_210427,	0874_MW211_210427, 0874_MW233_210427, 0874_MW252_210427, 0874_MW301_210427, 0874_MW205_210427, 0874_MW207_210427, 0874_MW213_210427, 0874_MW215_210427	27-Apr-2021	07-May-2021	24-Oct-2021	✓	09-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW216_210427, 0874_QC111_210427,	0874_MW218_210427, 0874_MW238_210427	27-Apr-2021	10-May-2021	24-Oct-2021	✓	10-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_QC305_210427,	0874_MW240_210427	27-Apr-2021	11-May-2021	24-Oct-2021	✓	11-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW231_210428, 0874_MW114_210428, 0874_QC112_210428, 0874_MW004_210428, 0874_MW122_210428, 0874_MW135_210428, 0874_MW046_210428, 0874_MW090_210428, 0874_MW054_210428, 0874_QC306_210428	0874_MW237_210428, 0874_MW136_210428, 0874_MW265_210428, 0874_MW241_210428, 0874_MW002_210428, 0874_MW057_210428, 0874_QC113_210428, 0874_MW081_210428, 0874_MW055_210428,	28-Apr-2021	10-May-2021	25-Oct-2021	✓	10-May-2021	25-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW269_210429, 0874_QC114_210429, 0874_MW266_210429, 0874_MW261_210429, 0874_MW015_210429	0874_MW217_210429, 0874_MW219_210429, 0874_MW267_210429, 0874_MW225_210429,	29-Apr-2021	10-May-2021	26-Oct-2021	✓	10-May-2021	26-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW021_210429, 0874_QC115_210429, 0874_MW109_210429, 0874_MW251_210429, 0874_MW009_210429, 0874_MW043_210429, 0874_MW038_210429, 0874_MW126_210429, 0874_MW221_210429,	0874_MW139_210429, 0874_MW138_210429, 0874_MW110_210429, 0874_MW005_210429, 0874_MW247_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_QC307_210429, 0874_MW016_210429	29-Apr-2021	11-May-2021	26-Oct-2021	✓	11-May-2021	26-Oct-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_QC503_210427, 0874_MW467_210427, 0874_QC110_210427, 0874_MW253_210427, 0874_MW206_210427, 0874_MW204_210427, 0874_MW208_210427, 0874_MW214_210427,	0874_MW211_210427, 0874_MW233_210427, 0874_MW252_210427, 0874_MW301_210427, 0874_MW205_210427, 0874_MW207_210427, 0874_MW213_210427, 0874_MW215_210427	27-Apr-2021	07-May-2021	24-Oct-2021	✓	09-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW216_210427, 0874_QC111_210427,	0874_MW218_210427, 0874_MW238_210427	27-Apr-2021	10-May-2021	24-Oct-2021	✓	10-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_QC305_210427,	0874_MW240_210427	27-Apr-2021	11-May-2021	24-Oct-2021	✓	11-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW231_210428, 0874_MW114_210428, 0874_QC112_210428, 0874_MW004_210428, 0874_MW122_210428, 0874_MW135_210428, 0874_MW046_210428, 0874_MW090_210428, 0874_MW054_210428, 0874_QC306_210428	0874_MW237_210428, 0874_MW136_210428, 0874_MW265_210428, 0874_MW241_210428, 0874_MW002_210428, 0874_MW057_210428, 0874_QC113_210428, 0874_MW081_210428, 0874_MW055_210428,	28-Apr-2021	10-May-2021	25-Oct-2021	✓	10-May-2021	25-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW269_210429, 0874_QC114_210429, 0874_MW266_210429, 0874_MW261_210429, 0874_MW015_210429	0874_MW217_210429, 0874_MW219_210429, 0874_MW267_210429, 0874_MW225_210429,	29-Apr-2021	10-May-2021	26-Oct-2021	✓	10-May-2021	26-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW021_210429, 0874_QC115_210429, 0874_MW109_210429, 0874_MW251_210429, 0874_MW009_210429, 0874_MW043_210429, 0874_MW038_210429, 0874_MW126_210429, 0874_MW221_210429,	0874_MW139_210429, 0874_MW138_210429, 0874_MW110_210429, 0874_MW005_210429, 0874_MW247_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_QC307_210429, 0874_MW016_210429	29-Apr-2021	11-May-2021	26-Oct-2021	✓	11-May-2021	26-Oct-2021	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_210427, 0874_MW467_210427, 0874_QC110_210427, 0874_MW253_210427, 0874_MW206_210427, 0874_MW204_210427, 0874_MW208_210427, 0874_MW214_210427,	0874_MW211_210427, 0874_MW233_210427, 0874_MW252_210427, 0874_MW301_210427, 0874_MW205_210427, 0874_MW207_210427, 0874_MW213_210427, 0874_MW215_210427	27-Apr-2021	07-May-2021	24-Oct-2021	✓	09-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW216_210427, 0874_QC111_210427,	0874_MW218_210427, 0874_MW238_210427	27-Apr-2021	10-May-2021	24-Oct-2021	✓	10-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_QC305_210427,	0874_MW240_210427	27-Apr-2021	11-May-2021	24-Oct-2021	✓	11-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW231_210428, 0874_MW114_210428, 0874_QC112_210428, 0874_MW004_210428, 0874_MW122_210428, 0874_MW135_210428, 0874_MW046_210428, 0874_MW090_210428, 0874_MW054_210428, 0874_QC306_210428	0874_MW237_210428, 0874_MW136_210428, 0874_MW265_210428, 0874_MW241_210428, 0874_MW002_210428, 0874_MW057_210428, 0874_QC113_210428, 0874_MW081_210428, 0874_MW055_210428,	28-Apr-2021	10-May-2021	25-Oct-2021	✓	10-May-2021	25-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW269_210429, 0874_QC114_210429, 0874_MW266_210429, 0874_MW261_210429, 0874_MW015_210429	0874_MW217_210429, 0874_MW219_210429, 0874_MW267_210429, 0874_MW225_210429,	29-Apr-2021	10-May-2021	26-Oct-2021	✓	10-May-2021	26-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW021_210429, 0874_QC115_210429, 0874_MW109_210429, 0874_MW251_210429, 0874_MW009_210429, 0874_MW043_210429, 0874_MW038_210429, 0874_MW126_210429, 0874_MW221_210429,	0874_MW139_210429, 0874_MW138_210429, 0874_MW110_210429, 0874_MW005_210429, 0874_MW247_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_QC307_210429, 0874_MW016_210429	29-Apr-2021	11-May-2021	26-Oct-2021	✓	11-May-2021	26-Oct-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_QC503_210427, 0874_MW467_210427, 0874_QC110_210427, 0874_MW253_210427, 0874_MW206_210427, 0874_MW204_210427, 0874_MW208_210427, 0874_MW214_210427,	0874_MW211_210427, 0874_MW233_210427, 0874_MW252_210427, 0874_MW301_210427, 0874_MW205_210427, 0874_MW207_210427, 0874_MW213_210427, 0874_MW215_210427	27-Apr-2021	07-May-2021	24-Oct-2021	✓	09-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW216_210427, 0874_QC111_210427,	0874_MW218_210427, 0874_MW238_210427	27-Apr-2021	10-May-2021	24-Oct-2021	✓	10-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_QC305_210427,	0874_MW240_210427	27-Apr-2021	11-May-2021	24-Oct-2021	✓	11-May-2021	24-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW231_210428, 0874_MW114_210428, 0874_QC112_210428, 0874_MW004_210428, 0874_MW122_210428, 0874_MW135_210428, 0874_MW046_210428, 0874_MW090_210428, 0874_MW054_210428, 0874_QC306_210428	0874_MW237_210428, 0874_MW136_210428, 0874_MW265_210428, 0874_MW241_210428, 0874_MW002_210428, 0874_MW057_210428, 0874_QC113_210428, 0874_MW081_210428, 0874_MW055_210428,	28-Apr-2021	10-May-2021	25-Oct-2021	✓	10-May-2021	25-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW269_210429, 0874_QC114_210429, 0874_MW266_210429, 0874_MW261_210429, 0874_MW015_210429	0874_MW217_210429, 0874_MW219_210429, 0874_MW267_210429, 0874_MW225_210429,	29-Apr-2021	10-May-2021	26-Oct-2021	✓	10-May-2021	26-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW021_210429, 0874_QC115_210429, 0874_MW109_210429, 0874_MW251_210429, 0874_MW009_210429, 0874_MW043_210429, 0874_MW038_210429, 0874_MW126_210429, 0874_MW221_210429,	0874_MW139_210429, 0874_MW138_210429, 0874_MW110_210429, 0874_MW005_210429, 0874_MW247_210429, 0874_MW125_210429, 0874_MW116_210429, 0874_QC307_210429, 0874_MW016_210429	29-Apr-2021	11-May-2021	26-Oct-2021	✓	11-May-2021	26-Oct-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	63	9.52	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	63	6.35	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	63	6.35	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	63	4.76	5.00	✘	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	WATER	In house: Direct injection analysis of fresh waters after dilution (1:1) with mobile phase solvent. Analysis by LC-Electrospray-MS-MS, Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers.
Preparation Methods	Method	Matrix	Method Descriptions
Preparation for PFAS in water.	EP231-PR	WATER	Method presumes direct injection without workup. Preparation includes addition of internal standard and surrogate, and filtration prior to analysis.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2111812

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 22003	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 30-Apr-2021 15:30	Issue Date	: 04-May-2021
Client Requested Due Date	: 12-May-2021	Scheduled Reporting Date	: 12-May-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.0°C
Receipt Detail	: esky	No. of samples received / analysed	: 68 / 68

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2111812-001	27-Apr-2021 09:16	0874_QC503_210427	✓
EB2111812-002	27-Apr-2021 09:47	0874_MW211_210427	✓
EB2111812-003	27-Apr-2021 10:09	0874_MW467_210427	✓
EB2111812-004	27-Apr-2021 10:41	0874_MW233_210427	✓
EB2111812-005	27-Apr-2021 10:42	0874_QC110_210427	✓
EB2111812-006	27-Apr-2021 11:06	0874_MW252_210427	✓
EB2111812-007	27-Apr-2021 11:34	0874_MW253_210427	✓
EB2111812-008	27-Apr-2021 12:05	0874_MW301_210427	✓
EB2111812-009	27-Apr-2021 12:32	0874_MW206_210427	✓
EB2111812-010	27-Apr-2021 12:52	0874_MW205_210427	✓
EB2111812-011	27-Apr-2021 13:23	0874_MW204_210427	✓
EB2111812-012	27-Apr-2021 13:52	0874_MW207_210427	✓
EB2111812-013	27-Apr-2021 14:41	0874_MW208_210427	✓
EB2111812-014	27-Apr-2021 15:02	0874_MW213_210427	✓
EB2111812-015	27-Apr-2021 15:23	0874_MW214_210427	✓
EB2111812-016	27-Apr-2021 15:43	0874_MW215_210427	✓
EB2111812-017	27-Apr-2021 16:07	0874_MW216_210427	✓
EB2111812-018	27-Apr-2021 16:34	0874_MW218_210427	✓
EB2111812-019	27-Apr-2021 16:35	0874_QC111_210427	✓
EB2111812-020	27-Apr-2021 17:55	0874_MW238_210427	✓
EB2111812-021	28-Apr-2021 06:58	0874_MW231_210428	✓
EB2111812-022	28-Apr-2021 07:48	0874_MW237_210428	✓
EB2111812-023	28-Apr-2021 08:27	0874_MW114_210428	✓
EB2111812-024	28-Apr-2021 09:23	0874_MW136_210428	✓
EB2111812-025	28-Apr-2021 09:24	0874_QC112_210428	✓
EB2111812-026	28-Apr-2021 09:47	0874_MW265_210428	✓
EB2111812-027	28-Apr-2021 10:03	0874_MW004_210428	✓
EB2111812-028	28-Apr-2021 10:19	0874_MW241_210428	✓
EB2111812-029	28-Apr-2021 10:56	0874_MW122_210428	✓
EB2111812-030	28-Apr-2021 11:16	0874_MW002_210428	✓
EB2111812-031	28-Apr-2021 11:36	0874_MW135_210428	✓
EB2111812-032	28-Apr-2021 12:37	0874_MW057_210428	✓
EB2111812-033	28-Apr-2021 13:35	0874_MW046_210428	✓
EB2111812-034	28-Apr-2021 13:36	0874_QC113_210428	✓
EB2111812-035	28-Apr-2021 14:02	0874_MW090_210428	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2111812-036	28-Apr-2021 14:20	0874_MW081_210428		✓
EB2111812-037	28-Apr-2021 14:36	0874_MW054_210428		✓
EB2111812-038	28-Apr-2021 14:48	0874_MW055_210428		✓
EB2111812-039	28-Apr-2021 14:52	0874_QC306_210428		✓
EB2111812-040	29-Apr-2021 07:45	0874_MW269_210429		✓
EB2111812-041	29-Apr-2021 08:10	0874_MW217_210429		✓
EB2111812-042	29-Apr-2021 08:33	0874_QC114_210429		✓
EB2111812-043	29-Apr-2021 08:50	0874_MW219_210429		✓
EB2111812-044	29-Apr-2021 09:21	0874_MW266_210429		✓
EB2111812-045	29-Apr-2021 09:40	0874_MW267_210429		✓
EB2111812-046	29-Apr-2021 10:01	0874_MW261_210429		✓
EB2111812-047	29-Apr-2021 10:26	0874_MW225_210429		✓
EB2111812-048	29-Apr-2021 11:11	0874_MW015_210429		✓
EB2111812-049	29-Apr-2021 11:31	0874_MW021_210429		✓
EB2111812-050	29-Apr-2021 12:09	0874_MW139_210429		✓
EB2111812-051	29-Apr-2021 12:09	0874_QC115_210429		✓
EB2111812-052	29-Apr-2021 12:22	0874_MW138_210429		✓
EB2111812-053	29-Apr-2021 12:34	0874_MW109_210429		✓
EB2111812-054	29-Apr-2021 12:47	0874_MW110_210429		✓
EB2111812-055	29-Apr-2021 13:09	0874_MW251_210429		✓
EB2111812-056	29-Apr-2021 13:28	0874_MW005_210429		✓
EB2111812-057	29-Apr-2021 13:44	0874_MW009_210429		✓
EB2111812-058	29-Apr-2021 14:11	0874_MW247_210429		✓
EB2111812-059	29-Apr-2021 14:39	0874_MW043_210429		✓
EB2111812-060	29-Apr-2021 15:03	0874_MW125_210429		✓
EB2111812-061	29-Apr-2021 15:25	0874_MW038_210429		✓
EB2111812-062	29-Apr-2021 15:52	0874_MW116_210429		✓
EB2111812-063	29-Apr-2021 16:09	0874_MW126_210429		✓
EB2111812-064	27-Apr-2021 06:00	0874_QC305_210427		✓
EB2111812-065	29-Apr-2021 16:20	0874_QC307_210429		✓
EB2111812-066	27-Apr-2021 17:30	0874_MW240_210427		✓
EB2111812-067	29-Apr-2021 08:30	0874_MW221_210429		✓
EB2111812-068	29-Apr-2021 11:20	0874_MW016_210429		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2111836**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **22193**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **28**
No. of samples analysed : **28**

Page : 1 of 15
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : **30-Apr-2021 15:30**
Date Analysis Commenced : **07-May-2021**
Issue Date : **13-May-2021 17:28**



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The PFDS LOR for '0874_MW220_210430' has been raised due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution prior to analysis due to matrix interferences. LOR values have been adjusted accordingly and surrogate recoveries not determined for particular samples.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW239_210430	0874_MW034_210430	0874_MW033_210430	0874_MW120_210430	0874_QC116_210430
Sampling date / time				30-Apr-2021 07:19	30-Apr-2021 07:55	30-Apr-2021 08:12	30-Apr-2021 08:35	30-Apr-2021 08:36	
Compound	CAS Number	LOR	Unit	EB2111836-001	EB2111836-002	EB2111836-003	EB2111836-004	EB2111836-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	5.05	0.26	1.67	1.77	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	4.01	0.28	1.89	1.81	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	13.2	2.18	13.8	12.7	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.69	0.24	0.82	0.82	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	5.08	12.6	22.6	19.4	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.28	<0.10	<0.10	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.7	0.3	0.7	0.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	1.04	0.50	0.78	0.81	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	4.47	1.10	3.80	3.72	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.48	0.48	0.53	0.52	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.59	0.64	1.13	1.15	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.06	<0.10	<0.10	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.05	<0.10	<0.10	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.10	<0.10	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.05	<0.10	<0.10	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.10	<0.10	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.25	<0.25	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.24	<0.10	<0.10	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.12	<0.25	<0.25	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.25	<0.25	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW239_210430	0874_MW034_210430	0874_MW033_210430	0874_MW120_210430	0874_QC116_210430
Sampling date / time					30-Apr-2021 07:19	30-Apr-2021 07:55	30-Apr-2021 08:12	30-Apr-2021 08:35	30-Apr-2021 08:36
Compound	CAS Number	LOR	Unit	EB2111836-001	EB2111836-002	EB2111836-003	EB2111836-004	EB2111836-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.25	<0.25	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.25	<0.25	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.05	<0.10	<0.10	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.05	<0.10	<0.10	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.10	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.10	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.08	<0.10	<0.10	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.10	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	35.3	19.3	47.7	43.4	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	18.3	14.8	36.4	32.1	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	30.6	18.1	45.0	40.8	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.9	96.5	97.1	111	107	
13C8-PFOA	----	0.02	%	97.8	97.9	99.7	100	97.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW026_210430	0874_MW223_210430	0874_MW063_210430	0874_MW061_210430	0874_QC504_210430
Sampling date / time				30-Apr-2021 08:53	30-Apr-2021 09:11	30-Apr-2021 09:38	30-Apr-2021 09:56	30-Apr-2021 09:46	
Compound	CAS Number	LOR	Unit	EB2111836-006	EB2111836-007	EB2111836-008	EB2111836-009	EB2111836-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	0.54	1.16	0.45	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	0.52	1.39	0.61	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.68	3.38	10.5	5.93	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.41	0.16	0.71	0.43	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	17.8	5.35	15.9	12.6	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.5	0.3	0.6	0.3	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.10	0.36	0.74	0.32	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.33	1.28	3.40	1.33	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.10	0.22	0.48	0.21	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.23	0.24	0.80	0.55	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.12	<0.12	<0.12	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.10	<0.05	<0.05	0.05	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.12	<0.12	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.12	<0.12	<0.12	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW026_210430	0874_MW223_210430	0874_MW063_210430	0874_MW061_210430	0874_QC504_210430
Sampling date / time				30-Apr-2021 08:53	30-Apr-2021 09:11	30-Apr-2021 09:38	30-Apr-2021 09:56	30-Apr-2021 09:46	
Compound	CAS Number	LOR	Unit	EB2111836-006	EB2111836-007	EB2111836-008	EB2111836-009	EB2111836-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.12	<0.12	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.12	<0.12	<0.12	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.05	<0.05	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.05	0.10	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	20.8	12.4	35.8	22.8	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	19.5	8.73	26.4	18.5	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	20.1	11.7	33.7	21.7	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	94.9	100	108	98.8	
13C8-PFOA	----	0.02	%	98.8	98.6	97.3	98.2	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC117_210430	0874_MW232_210430	0874_MW224_210430	0874_MW300_210430	0874_MW243_210430
Sampling date / time				30-Apr-2021 09:57	30-Apr-2021 10:23	30-Apr-2021 10:44	30-Apr-2021 10:26	30-Apr-2021 11:16	
Compound	CAS Number	LOR	Unit	EB2111836-011	EB2111836-012	EB2111836-013	EB2111836-014	EB2111836-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.45	0.28	0.39	0.26	3.40	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.59	0.33	0.28	0.05	2.55	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	5.99	2.54	1.49	0.25	14.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.39	0.16	0.08	<0.02	0.92	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	12.6	4.56	1.66	0.06	32.0	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	<0.2	0.1	<0.1	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.33	0.12	0.12	<0.02	1.72	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.41	0.32	0.19	<0.02	7.51	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.22	0.08	0.05	<0.02	0.76	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.56	0.13	0.05	0.02	1.28	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	0.05	<0.02	<0.24	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.13	<0.05	<0.05	<0.59	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.05	<0.05	<0.02	<0.02	<0.24	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.13	<0.05	<0.05	<0.59	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.13	<0.05	<0.05	<0.59	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC117_210430	0874_MW232_210430	0874_MW224_210430	0874_MW300_210430	0874_MW243_210430
Sampling date / time				30-Apr-2021 09:57	30-Apr-2021 10:23	30-Apr-2021 10:44	30-Apr-2021 10:26	30-Apr-2021 11:16	
Compound	CAS Number	LOR	Unit	EB2111836-011	EB2111836-012	EB2111836-013	EB2111836-014	EB2111836-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.13	<0.05	<0.05	<0.59	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.13	<0.05	<0.05	<0.59	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.24	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.24	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.06	0.06	<0.24	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.24	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.24	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	23.0	8.52	4.52	0.70	64.4	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	18.6	7.10	3.15	0.31	46.3	
Sum of PFAS (WA DER List)	----	0.01	µg/L	22.0	8.03	4.11	0.65	61.0	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	107	114	109	105	
13C8-PFOA	----	0.02	%	98.8	98.0	99.5	101	95.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW246_210430	0874_MW245_210430	0874_MW222_210430	0874_MW242_210430	0874_MW112_210430
Sampling date / time				30-Apr-2021 11:42	30-Apr-2021 11:57	30-Apr-2021 11:56	30-Apr-2021 12:22	30-Apr-2021 12:51	
Compound	CAS Number	LOR	Unit	EB2111836-016	EB2111836-017	EB2111836-018	EB2111836-019	EB2111836-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	9.06	0.08	0.04	6.33	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	13.4	0.06	0.04	7.76	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.23	114	0.34	0.25	113	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	8.16	<0.02	<0.02	7.46	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.34	47.1	0.28	0.20	128	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	4.0	<0.1	<0.1	<3.8	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	5.99	<0.02	<0.02	3.92	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.16	29.2	0.07	0.05	29.1	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	6.51	<0.02	<0.02	2.79	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	12.9	0.02	0.01	6.40	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<1.18	<0.05	<0.05	<1.88	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<1.18	<0.05	<0.05	<1.88	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<1.18	<0.05	<0.05	<1.88	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW246_210430	0874_MW245_210430	0874_MW222_210430	0874_MW242_210430	0874_MW112_210430
Sampling date / time				30-Apr-2021 11:42	30-Apr-2021 11:57	30-Apr-2021 11:56	30-Apr-2021 12:22	30-Apr-2021 12:51	
Compound	CAS Number	LOR	Unit	EB2111836-016	EB2111836-017	EB2111836-018	EB2111836-019	EB2111836-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<1.18	<0.05	<0.05	<1.88	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<1.18	<0.05	<0.05	<1.88	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.47	<0.02	<0.02	<0.75	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.47	<0.05	<0.05	<0.75	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.57	<0.05	<0.05	<0.75	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.47	<0.05	<0.05	<0.75	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.47	<0.05	<0.05	<0.75	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.84	251	0.85	0.59	305	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.57	161	0.62	0.45	241	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.81	229	0.79	0.55	290	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	100	108	99.1	Not Determined	
13C8-PFOA	----	0.02	%	104	100	104	103	Not Determined	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW220_210430	0874_QC308_210430	0874_MW227_210430	0874_MW470_210430	0874_MW226_210430
Sampling date / time				30-Apr-2021 12:21	30-Apr-2021 13:06	30-Apr-2021 14:12	30-Apr-2021 13:06	30-Apr-2021 14:26	
Compound	CAS Number	LOR	Unit	EB2111836-021	EB2111836-022	EB2111836-023	EB2111836-024	EB2111836-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	<0.02	<0.02	0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.02	0.03	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	<0.01	0.02	0.06	0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.03	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.03	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW220_210430	0874_QC308_210430	0874_MW227_210430	0874_MW470_210430	0874_MW226_210430
Sampling date / time				30-Apr-2021 12:21	30-Apr-2021 13:06	30-Apr-2021 14:12	30-Apr-2021 13:06	30-Apr-2021 14:26	
Compound	CAS Number	LOR	Unit	EB2111836-021	EB2111836-022	EB2111836-023	EB2111836-024	EB2111836-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.09	<0.01	0.04	0.12	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.07	<0.01	0.04	0.09	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.09	<0.01	0.04	0.12	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.0	95.7	102	94.8	108	
13C8-PFOA	----	0.02	%	98.1	104	105	103	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW228_210430	0874_QC309_210430	0874_MW229_210430	----	----
Sampling date / time				30-Apr-2021 14:42	30-Apr-2021 14:56	30-Apr-2021 14:57	----	----	
Compound	CAS Number	LOR	Unit	EB2111836-026	EB2111836-027	EB2111836-028	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.06	<0.02	<0.02	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.03	<0.01	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW228_210430	0874_QC309_210430	0874_MW229_210430	----	----
Sampling date / time				30-Apr-2021 14:42	30-Apr-2021 14:56	30-Apr-2021 14:57	----	----	
Compound	CAS Number	LOR	Unit	EB2111836-026	EB2111836-027	EB2111836-028	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.14	0.03	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.06	0.03	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.14	0.03	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.5	108	103	----	----	
13C8-PFOA	----	0.02	%	104	105	102	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order : EB2111836 Client : AECOM Australia Pty Ltd Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Project : QLD_0874_PFASOMP Order number : 60612487_2.1 C-O-C number : 22193 Sampler : [REDACTED] Site : QLD_0874 Quote number : TV/007/21 - Compass No. of samples received : 28 No. of samples analysed : 28	Page : 1 of 11 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 30-Apr-2021 Date Analysis Commenced : 07-May-2021 Issue Date : 13-May-2021
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663554)									
EB2111836-003	0874_MW033_210430	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	12.6	13.2	4.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	0.26	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.28	0.27	4.1	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.18	2.19	0.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.24	0.21	9.4	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.28	<0.05	140	No Limit
EB2111836-013	0874_MW224_210430	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.66	1.88	12.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	0.39	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.28	0.27	4.0	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.49	1.42	4.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3663555)									
EB2111836-015	0874_MW243_210430	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	32.0	28.0	13.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.40	3.32	2.6	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.55	2.41	5.6	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	14.3	14.8	3.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.92	0.86	7.1	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.17	14.9	0% - 20%
EB2111836-019	0874_MW242_210430	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.25	0.26	6.1	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.17	14.9	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663554)									
EB2111836-003	0874_MW033_210430	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.64	0.62	2.9	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.50	0.49	3.5	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.10	1.07	2.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.48	0.51	5.5	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.05	<0.05	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.3	0.0	No Limit
EB2111836-013	0874_MW224_210430	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.12	0.13	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.19	0.20	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.06	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663555)									
EB2111836-015	0874_MW243_210430	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.28	1.30	1.8	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.72	1.62	6.1	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	7.51	7.35	2.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.76	0.72	5.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.59	<0.58	1.9	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.2	<1.2	0.0	No Limit
EB2111836-019	0874_MW242_210430	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3663555) - continued									
EB2111836-019	0874_MW242_210430	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663554)									
EB2111836-003	0874_MW033_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.24	0.22	4.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EB2111836-013	0874_MW224_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663555)									
EB2111836-015	0874_MW243_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.59	<0.58	1.9	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3663555) - continued									
EB2111836-015	0874_MW243_210430	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.59	<0.58	1.9	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.59	<0.58	1.9	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.59	<0.58	1.9	No Limit
EB2111836-019	0874_MW242_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663554)									
EB2111836-003	0874_MW033_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.08	0.07	13.8	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2111836-013	0874_MW224_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.06	0.06	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663555)									
EB2111836-015	0874_MW243_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.24	<0.23	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3663555) - continued									
EB2111836-015	0874_MW243_210430	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.24	<0.23	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.24	<0.23	0.0	No Limit
EB2111836-019	0874_MW242_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3663554)									
EB2111836-003	0874_MW033_210430	EP231X: Sum of PFAS	----	0.01	µg/L	19.3	19.5	0.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	14.8	15.4	4.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	18.1	18.7	3.1	0% - 20%
EB2111836-013	0874_MW224_210430	EP231X: Sum of PFAS	----	0.01	µg/L	4.52	4.69	3.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.15	3.30	4.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.11	4.29	4.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 3663555)									
EB2111836-015	0874_MW243_210430	EP231X: Sum of PFAS	----	0.01	µg/L	64.4	60.4	6.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	46.3	42.8	7.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	61.0	57.1	6.5	0% - 20%
EB2111836-019	0874_MW242_210430	EP231X: Sum of PFAS	----	0.01	µg/L	0.59	0.57	3.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.45	0.43	4.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.55	0.53	3.7	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663554)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	94.7	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	97.8	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	88.1	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	79.6	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	103	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	84.4	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663555)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	93.3	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	94.0	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	81.5	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	78.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	97.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	78.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663554)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.9	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	94.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.2	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.0	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	83.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	96.6	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663555)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	84.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.6	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	80.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	91.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.0	69.0	133	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663555) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	85.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	75.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	91.1	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663554)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	92.6	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	75.4	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.6	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	96.5	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	85.6	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	88.0	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663555)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	98.2	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	93.8	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.0	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	95.8	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	90.6	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663554)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.4	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	86.7	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663555)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	89.4	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	93.6	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	105	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	87.3	64.2	133	
EP231P: PFAS Sums (QCLot: 3663554)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3663554) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3663555)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663554)							
EB2111836-012	0874_MW232_210430	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	80.1	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	87.5	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	74.4	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	73.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	99.3	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	90.0	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3663555)							
EB2111836-016	0874_MW246_210430	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	90.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.9	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	86.9	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	88.2	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	86.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	88.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663554)							
EB2111836-012	0874_MW232_210430	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	80.1	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	77.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	72.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	82.0	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	76.7	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	82.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	80.4	71.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663554) - continued							
EB2111836-012	0874_MW232_210430	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	76.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	78.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	72.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	71.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3663555)							
EB2111836-016	0874_MW246_210430	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	79.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	96.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	83.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	86.1	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.5	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	82.2	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	83.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	89.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	86.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	88.8	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663554)					
EB2111836-012	0874_MW232_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	90.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	78.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	70.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	84.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	80.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	80.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663555)							
EB2111836-016	0874_MW246_210430	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	91.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	95.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	78.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	94.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	85.4	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3663555) - continued							
EB2111836-016	0874_MW246_210430	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	96.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663554)							
EB2111836-012	0874_MW232_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	82.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	82.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	82.7	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	79.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3663555)							
EB2111836-016	0874_MW246_210430	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	88.7	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	98.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	88.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	105	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2111836	Page	: 1 of 6
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 30-Apr-2021
Site	: QLD_0874	Issue Date	: 13-May-2021
Sampler	: [REDACTED]	No. of samples received	: 28
Order number	: 60612487_2.1	No. of samples analysed	: 28

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW243_210430, 0874_MW245_210430, 0874_MW242_210430, 0874_MW220_210430, 0874_MW227_210430, 0874_MW226_210430, 0874_QC309_210430,	0874_MW246_210430, 0874_MW222_210430, 0874_MW112_210430, 0874_QC308_210430, 0874_MW470_210430, 0874_MW228_210430, 0874_MW229_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	07-May-2021	27-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW239_210430, 0874_MW033_210430, 0874_QC116_210430, 0874_MW223_210430, 0874_MW061_210430, 0874_QC117_210430, 0874_MW224_210430,	0874_MW034_210430, 0874_MW120_210430, 0874_MW026_210430, 0874_MW063_210430, 0874_QC504_210430, 0874_MW232_210430, 0874_MW300_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	09-May-2021	27-Oct-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW243_210430, 0874_MW245_210430, 0874_MW242_210430, 0874_MW220_210430, 0874_MW227_210430, 0874_MW226_210430, 0874_QC309_210430,	0874_MW246_210430, 0874_MW222_210430, 0874_MW112_210430, 0874_QC308_210430, 0874_MW470_210430, 0874_MW228_210430, 0874_MW229_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	07-May-2021	27-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW239_210430, 0874_MW033_210430, 0874_QC116_210430, 0874_MW223_210430, 0874_MW061_210430, 0874_QC117_210430, 0874_MW224_210430,	0874_MW034_210430, 0874_MW120_210430, 0874_MW026_210430, 0874_MW063_210430, 0874_QC504_210430, 0874_MW232_210430, 0874_MW300_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	09-May-2021	27-Oct-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW243_210430, 0874_MW245_210430, 0874_MW242_210430, 0874_MW220_210430, 0874_MW227_210430, 0874_MW226_210430, 0874_QC309_210430,	0874_MW246_210430, 0874_MW222_210430, 0874_MW112_210430, 0874_QC308_210430, 0874_MW470_210430, 0874_MW228_210430, 0874_MW229_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	07-May-2021	27-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW239_210430, 0874_MW033_210430, 0874_QC116_210430, 0874_MW223_210430, 0874_MW061_210430, 0874_QC117_210430, 0874_MW224_210430,	0874_MW034_210430, 0874_MW120_210430, 0874_MW026_210430, 0874_MW063_210430, 0874_QC504_210430, 0874_MW232_210430, 0874_MW300_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	09-May-2021	27-Oct-2021	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW243_210430, 0874_MW245_210430, 0874_MW242_210430, 0874_MW220_210430, 0874_MW227_210430, 0874_MW226_210430, 0874_QC309_210430,	0874_MW246_210430, 0874_MW222_210430, 0874_MW112_210430, 0874_QC308_210430, 0874_MW470_210430, 0874_MW228_210430, 0874_MW229_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	07-May-2021	27-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW239_210430, 0874_MW033_210430, 0874_QC116_210430, 0874_MW223_210430, 0874_MW061_210430, 0874_QC117_210430, 0874_MW224_210430,	0874_MW034_210430, 0874_MW120_210430, 0874_MW026_210430, 0874_MW063_210430, 0874_QC504_210430, 0874_MW232_210430, 0874_MW300_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	09-May-2021	27-Oct-2021	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW243_210430, 0874_MW245_210430, 0874_MW242_210430, 0874_MW220_210430, 0874_MW227_210430, 0874_MW226_210430, 0874_QC309_210430,	0874_MW246_210430, 0874_MW222_210430, 0874_MW112_210430, 0874_QC308_210430, 0874_MW470_210430, 0874_MW228_210430, 0874_MW229_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	07-May-2021	27-Oct-2021	✓
HDPE (no PTFE) (EP231X) 0874_MW239_210430, 0874_MW033_210430, 0874_QC116_210430, 0874_MW223_210430, 0874_MW061_210430, 0874_QC117_210430, 0874_MW224_210430,	0874_MW034_210430, 0874_MW120_210430, 0874_MW026_210430, 0874_MW063_210430, 0874_QC504_210430, 0874_MW232_210430, 0874_MW300_210430	30-Apr-2021	07-May-2021	27-Oct-2021	✓	09-May-2021	27-Oct-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	28	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	28	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2111836

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 22193	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 30-Apr-2021 15:30	Issue Date	: 04-May-2021
Client Requested Due Date	: 12-May-2021	Scheduled Reporting Date	: 12-May-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 8.4°C - Ice present
Receipt Detail	: ESKY	No. of samples received / analysed	: 28 / 28

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2111836-001	30-Apr-2021 07:19	0874_MW239_210430	✓
EB2111836-002	30-Apr-2021 07:55	0874_MW034_210430	✓
EB2111836-003	30-Apr-2021 08:12	0874_MW033_210430	✓
EB2111836-004	30-Apr-2021 08:35	0874_MW120_210430	✓
EB2111836-005	30-Apr-2021 08:36	0874_QC116_210430	✓
EB2111836-006	30-Apr-2021 08:53	0874_MW026_210430	✓
EB2111836-007	30-Apr-2021 09:11	0874_MW223_210430	✓
EB2111836-008	30-Apr-2021 09:38	0874_MW063_210430	✓
EB2111836-009	30-Apr-2021 09:56	0874_MW061_210430	✓
EB2111836-010	30-Apr-2021 09:46	0874_QC504_210430	✓
EB2111836-011	30-Apr-2021 09:57	0874_QC117_210430	✓
EB2111836-012	30-Apr-2021 10:23	0874_MW232_210430	✓
EB2111836-013	30-Apr-2021 10:44	0874_MW224_210430	✓
EB2111836-014	30-Apr-2021 10:26	0874_MW300_210430	✓
EB2111836-015	30-Apr-2021 11:16	0874_MW243_210430	✓
EB2111836-016	30-Apr-2021 11:42	0874_MW246_210430	✓
EB2111836-017	30-Apr-2021 11:57	0874_MW245_210430	✓
EB2111836-018	30-Apr-2021 11:56	0874_MW222_210430	✓
EB2111836-019	30-Apr-2021 12:22	0874_MW242_210430	✓
EB2111836-020	30-Apr-2021 12:51	0874_MW112_210430	✓
EB2111836-021	30-Apr-2021 12:21	0874_MW220_210430	✓
EB2111836-022	30-Apr-2021 13:06	0874_QC308_210430	✓
EB2111836-023	30-Apr-2021 14:12	0874_MW227_210430	✓
EB2111836-024	30-Apr-2021 13:06	0874_MW470_210430	✓
EB2111836-025	30-Apr-2021 14:26	0874_MW226_210430	✓
EB2111836-026	30-Apr-2021 14:42	0874_MW228_210430	✓
EB2111836-027	30-Apr-2021 14:56	0874_QC309_210430	✓
EB2111836-028	30-Apr-2021 14:57	0874_MW229_210430	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2112383**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **22409**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **12**
No. of samples analysed : **12**

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : **07-May-2021 09:00**
Date Analysis Commenced : **10-May-2021**
Issue Date : **17-May-2021 12:58**



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_SD113_210506	----	----	----	----
		Sampling date / time		06-May-2021 11:37	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2112383-007	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	47.9	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0006	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0007	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0066	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0009	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0930	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0023	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0011	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD113_210506	----	----	----	----
Sampling date / time				06-May-2021 11:37	----	----	----	----	
Compound	CAS Number	LOR	Unit	EB2112383-007	-----	-----	-----	-----	
				Result	----	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.106	----	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0996	----	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.102	----	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	92.0	----	----	----	----	
13C8-PFOA	----	0.0002	%	91.5	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW013_210506	0874_QC118_210506	0874_MW248_210506	0874_MW056_210506	0874_SW113_210506
Sampling date / time				06-May-2021 09:33	06-May-2021 09:34	06-May-2021 10:14	06-May-2021 10:47	06-May-2021 11:35	
Compound	CAS Number	LOR	Unit	EB2112383-001	EB2112383-002	EB2112383-003	EB2112383-004	EB2112383-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	15.0	14.0	36.2	0.63	0.47	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	15.4	14.8	43.8	0.51	0.44	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	63.0	63.0	432	1.79	2.88	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	7.75	7.90	46.5	0.02	0.13	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	186	183	1110	0.12	1.82	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.1	7.3	<12.5	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	9.65	9.55	16.8	0.07	0.17	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	46.1	45.2	106	0.28	0.91	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.05	9.05	10.2	0.02	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	12.8	13.0	41.0	0.02	0.14	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<1.25	<6.25	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<1.25	<6.25	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<1.25	<6.25	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW013_210506	0874_QC118_210506	0874_MW248_210506	0874_MW056_210506	0874_SW113_210506
Sampling date / time				06-May-2021 09:33	06-May-2021 09:34	06-May-2021 10:14	06-May-2021 10:47	06-May-2021 11:35	
Compound	CAS Number	LOR	Unit	EB2112383-001	EB2112383-002	EB2112383-003	EB2112383-004	EB2112383-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<1.25	<6.25	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<1.25	<6.25	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.50	<2.50	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.50	<2.50	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	3.65	3.75	<2.50	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.50	<2.50	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.50	<2.50	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	376	370	1840	3.46	7.14	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	249	246	1540	1.91	4.70	
Sum of PFAS (WA DER List)	----	0.01	µg/L	352	348	1750	2.93	6.57	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.2	102	88.4	93.3	93.8	
13C8-PFOA	----	0.02	%	96.4	98.3	97.6	97.5	97.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC119_210506	0874_MW201_210506	0874_MW202_210506	0874_MW203_210506	0874_QC505_210506
Sampling date / time				06-May-2021 11:36	06-May-2021 15:09	06-May-2021 15:39	06-May-2021 16:32	06-May-2021 16:38	
Compound	CAS Number	LOR	Unit	EB2112383-006	EB2112383-008	EB2112383-009	EB2112383-010	EB2112383-011	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.47	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.42	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.86	<0.02	0.03	0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.13	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.64	<0.01	<0.01	0.03	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.18	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.95	<0.02	0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.08	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC119_210506	0874_MW201_210506	0874_MW202_210506	0874_MW203_210506	0874_QC505_210506
Sampling date / time				06-May-2021 11:36	06-May-2021 15:09	06-May-2021 15:39	06-May-2021 16:32	06-May-2021 16:38	
Compound	CAS Number	LOR	Unit	EB2112383-006	EB2112383-008	EB2112383-009	EB2112383-010	EB2112383-011	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.97	<0.01	0.05	0.05	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.50	<0.01	0.03	0.05	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.42	<0.01	0.05	0.05	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.7	84.3	97.9	98.4	102	
13C8-PFOA	----	0.02	%	96.6	98.2	97.1	96.4	96.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID			0874_QC309_210506	----	----	----	----
		Sampling date / time			06-May-2021 16:39	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2112383-012	-----	-----	-----	-----	-----
				Result	----	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	----	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID	0874_QC309_210506	----	----	----	----
		Sampling date / time	06-May-2021 16:39	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2112383-012	-----	-----	-----
				Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued							
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----
EP231P: PFAS Sums							
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----
EP231S: PFAS Surrogate							
13C4-PFOS	----	0.02	%	95.3	----	----	----
13C8-PFOA	----	0.02	%	98.2	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QUALITY CONTROL REPORT

Work Order : EB2112383 Client : AECOM Australia Pty Ltd Contact : [REDACTED] Address : [REDACTED] TOMLINS STREET Telephone : ---- Project : QLD_0874_PFASOMP Order number : 60612487_2.1 C-O-C number : 22409 Sampler : [REDACTED] Site : QLD_0874 Quote number : TV/007/21 - Compass No. of samples received : 12 No. of samples analysed : 12	Page : 1 of 9 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 07-May-2021 Date Analysis Commenced : 10-May-2021 Issue Date : 17-May-2021
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Acid Sulfate Soil Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3668975)									
EB2112383-007	0874_SD113_210506	EA055: Moisture Content	----	0.1	%	47.9	45.0	6.3	0% - 20%
EB2112510-014	Anonymous	EA055: Moisture Content	----	0.1	%	43.2	43.8	1.4	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3671010)									
EB2112383-007	0874_SD113_210506	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0007	0.0007	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0066	0.0068	2.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0009	0.0010	13.1	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0930	0.100	7.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0023	0.0027	13.6	0% - 50%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3671010)									
EB2112383-007	0874_SD113_210506	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0011	0.0012	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	0.0005	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3671010)							
EB2112383-007	0874_SD113_210506	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3671010) - continued									
EB2112383-007	0874_SD113_210506	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3671010)									
EB2112383-007	0874_SD113_210506	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3671415)									
EB2112675-001	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3671415)									
EB2112675-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3671415) - continued									
EB2112675-001	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3671415)									
EB2112675-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3671415)									
EB2112675-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3671415)									
EB2112675-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3671010)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	109	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	110	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	100	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	115	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	106	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	118	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3671010)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	91.9	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	110	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671010)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	107	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	111	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671010)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	120	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	# 140	65.0	137



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671010) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	123	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3671415)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	90.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	94.6	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	81.1	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	74.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	91.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	71.0	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3671415)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	81.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	89.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	80.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	86.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	86.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	82.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	78.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	73.8	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	73.3	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671415)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	87.5	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	81.0	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	82.6	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.1	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	77.4	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671415)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	82.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	94.4	64.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671415) - continued								
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	94.8	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	70.5	64.2	133
EP231P: PFAS Sums (QCLot: 3671415)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3671010)							
EB2112387-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	108	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	121	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	108	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	116	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	109	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	122	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3671010)							
EB2112387-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	98.6	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	121	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	124	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	115	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	120	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	108	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	110	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	116	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	125	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	120	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	120	69.0	133
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671010)					
EB2112387-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	121	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	121	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671010) - continued							
EB2112387-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	99.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	137	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	120	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671010)							
EB2112387-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	117	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	107	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	130	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	118	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3671415)							
EB2112383-003	0874_MW248_210506	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	91.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	90.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.0	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	84.0	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	87.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3671415)							
EB2112383-003	0874_MW248_210506	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	87.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	87.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	87.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	85.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	83.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	83.2	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	83.0	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	86.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	81.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	95.0	71.0	132

EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671415)



Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3671415) - continued							
EB2112383-003	0874_MW248_210506	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	89.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	91.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	87.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	93.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	97.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3671415)							
EB2112383-003	0874_MW248_210506	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	86.3	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	96.7	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	95.0	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	89.6	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2112383	Page	: 1 of 6
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 07-May-2021
Site	: QLD_0874	Issue Date	: 17-May-2021
Sampler	: [REDACTED]	No. of samples received	: 12
Order number	: 60612487_2.1	No. of samples analysed	: 12

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-3671010-002	----	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	140 %	65.0-137%	Recovery greater than upper control limit

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2112383--003	0874_MW248_210506	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	18	5.56	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055) 0874_SD113_210506	06-May-2021	----	----	----	10-May-2021	20-May-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) 0874_SD113_210506	06-May-2021	12-May-2021	02-Nov-2021	✓	12-May-2021	21-Jun-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE Soil Jar (EP231X) 0874_SD113_210506	06-May-2021	12-May-2021	02-Nov-2021	✓	12-May-2021	21-Jun-2021	✓



Matrix: **SOIL** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE Soil Jar (EP231X) 0874_SD113_210506	06-May-2021	12-May-2021	02-Nov-2021	✓	12-May-2021	21-Jun-2021	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE Soil Jar (EP231X) 0874_SD113_210506	06-May-2021	12-May-2021	02-Nov-2021	✓	12-May-2021	21-Jun-2021	✓
EP231P: PFAS Sums							
HDPE Soil Jar (EP231X) 0874_SD113_210506	06-May-2021	12-May-2021	02-Nov-2021	✓	12-May-2021	21-Jun-2021	✓

Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW013_210506, 0874_MW248_210506, 0874_SW113_210506, 0874_MW201_210506, 0874_MW203_210506, 0874_QC309_210506	0874_QC118_210506, 0874_MW056_210506, 0874_QC119_210506, 0874_MW202_210506, 0874_QC505_210506,	06-May-2021	11-May-2021	02-Nov-2021	✓	12-May-2021	02-Nov-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW013_210506, 0874_MW248_210506, 0874_SW113_210506, 0874_MW201_210506, 0874_MW203_210506, 0874_QC309_210506	0874_QC118_210506, 0874_MW056_210506, 0874_QC119_210506, 0874_MW202_210506, 0874_QC505_210506,	06-May-2021	11-May-2021	02-Nov-2021	✓	12-May-2021	02-Nov-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW013_210506, 0874_MW248_210506, 0874_SW113_210506, 0874_MW201_210506, 0874_MW203_210506, 0874_QC309_210506	0874_QC118_210506, 0874_MW056_210506, 0874_QC119_210506, 0874_MW202_210506, 0874_QC505_210506,	06-May-2021	11-May-2021	02-Nov-2021	✓	12-May-2021	02-Nov-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2112383

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 22409	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 07-May-2021 09:00	Issue Date	: 07-May-2021
Client Requested Due Date	: 17-May-2021	Scheduled Reporting Date	: 17-May-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 0.1°C - Ice present
Receipt Detail	: ESKY	No. of samples received / analysed	: 12 / 12

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2112383-007	06-May-2021 11:37	0874_SD113_210506	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2112383-001	06-May-2021 09:33	0874_MW013_210506	✓
EB2112383-002	06-May-2021 09:34	0874_QC118_210506	✓
EB2112383-003	06-May-2021 10:14	0874_MW248_210506	✓
EB2112383-004	06-May-2021 10:47	0874_MW056_210506	✓
EB2112383-005	06-May-2021 11:35	0974_SW113_210506	✓
EB2112383-006	06-May-2021 11:36	0874_QC119_210506	✓
EB2112383-008	06-May-2021 15:09	0874_MW201_210506	✓
EB2112383-009	06-May-2021 15:39	0874_MW202_210506	✓
EB2112383-010	06-May-2021 16:32	0874_MW203_210506	✓
EB2112383-011	06-May-2021 16:38	0874_QC505_210506	✓
EB2112383-012	06-May-2021 16:39	0874_QC309_210506	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

CERTIFICATE OF ANALYSIS

Work Order : **EB2114819**
Client : **AECOM Australia Pty Ltd**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **23442**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 - Compass**
No. of samples received : **3**
No. of samples analysed : **3**

Page : 1 of 5
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 28-May-2021 09:15
Date Analysis Commenced : 05-Jun-2021
Issue Date : 07-Jun-2021 17:28



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_210528	0874_QC506_210528	0874_QC310_210528	----	----
Sampling date / time				28-May-2021 08:43	28-May-2021 08:44	28-May-2021 08:43	----	----	
Compound	CAS Number	LOR	Unit	EB2114819-001	EB2114819-002	EB2114819-003	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	<0.02	<0.02	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	<0.01	<0.01	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_210528	0874_QC506_210528	0874_QC310_210528	----	----
Sampling date / time				28-May-2021 08:43	28-May-2021 08:44	28-May-2021 08:43	----	----	
Compound	CAS Number	LOR	Unit	EB2114819-001	EB2114819-002	EB2114819-003	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.16	<0.01	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.16	<0.01	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	<0.01	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	115	110	108	----	----	
13C8-PFOA	----	0.02	%	99.9	104	97.3	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2114819

Client : AECOM Australia Pty Ltd

Contact : [REDACTED]

Address : [REDACTED]

Telephone : ----

Project : QLD_0874_PFASOMP

Order number : 60612487_2.1

C-O-C number : 23442

Sampler : [REDACTED]

Site : QLD_0874

Quote number : TV/007/21 - Compass

No. of samples received : 3

No. of samples analysed : 3

Page : 1 of 7

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : 28-May-2021

Date Analysis Commenced : 05-Jun-2021

Issue Date : 07-Jun-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3719548)											
EB2114819-001	0874_MW471_210528	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	0.12	0.0	0% - 50%		
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	0.04	0.0	No Limit		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EB2115215-019	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3719548)											
EB2114819-001	0874_MW471_210528	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		EB2115215-019	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3719548) - continued									
EB2115215-019	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3719548)									
EB2114819-001	0874_MW471_210528	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2115215-019	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3719548)									
EB2114819-001	0874_MW471_210528	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3719548) - continued									
EB2114819-001	0874_MW471_210528	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2115215-019	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3719548)									
EB2114819-001	0874_MW471_210528	EP231X: Sum of PFAS	----	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	0.16	0.0	0% - 50%
EB2115215-019	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3719548)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	91.8	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	100	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	102	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3719548)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	100	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.4	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3719548)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	115	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	106	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	104	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	115	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3719548)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	104	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	110	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	126	67.0	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3719548) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	123	64.2	133
EP231P: PFAS Sums (QCLot: 3719548)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report				
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)		
					MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3719548)								
EB2114819-003	0874_QC310_210528	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	97.5	72.0	130	
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	98.2	71.0	127	
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	95.1	68.0	131	
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	106	69.0	134	
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140	
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3719548)								
EB2114819-003	0874_QC310_210528	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	98.1	73.0	129	
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129	
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	100	72.0	129	
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	102	72.0	130	
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	104	71.0	133	
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130	
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	111	71.0	129	
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	102	69.0	133	
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	95.8	72.0	134	
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	86.1	65.0	144	
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	96.6	71.0	132	
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3719548)						
		EB2114819-003	0874_QC310_210528	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	101	59.0
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8			0.625 µg/L	97.8	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2			0.625 µg/L	112	70.0	130	



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3719548) - continued							
EB2114819-003	0874_QC310_210528	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	106	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3719548)							
EB2114819-003	0874_QC310_210528	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	113	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	102	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	110	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	112	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2114819	Page	: 1 of 4
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 28-May-2021
Site	: QLD_0874	Issue Date	: 07-Jun-2021
Sampler	: [REDACTED]	No. of samples received	: 3
Order number	: 60612487_2.1	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW471_210528, 0874_QC310_210528	0874_QC506_210528,	28-May-2021	05-Jun-2021	24-Nov-2021	✓	06-Jun-2021	24-Nov-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW471_210528, 0874_QC310_210528	0874_QC506_210528,	28-May-2021	05-Jun-2021	24-Nov-2021	✓	06-Jun-2021	24-Nov-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW471_210528, 0874_QC310_210528	0874_QC506_210528,	28-May-2021	05-Jun-2021	24-Nov-2021	✓	06-Jun-2021	24-Nov-2021	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW471_210528, 0874_QC310_210528	0874_QC506_210528,	28-May-2021	05-Jun-2021	24-Nov-2021	✓	06-Jun-2021	24-Nov-2021	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW471_210528, 0874_QC310_210528	0874_QC506_210528,	28-May-2021	05-Jun-2021	24-Nov-2021	✓	06-Jun-2021	24-Nov-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	13	15.38	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2114819

Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 3
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 23442	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 28-May-2021 09:15	Issue Date	: 28-May-2021
Client Requested Due Date	: 07-Jun-2021	Scheduled Reporting Date	: 07-Jun-2021

Delivery Details

Mode of Delivery	: Client Drop Off	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 4.7°C - Ice present
Receipt Detail	: ESKY	No. of samples received / analysed	: 3 / 3

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2114819-001	28-May-2021 08:43	0874_MW471_210528	✓
EB2114819-002	28-May-2021 08:44	0874_QC506_210528	✓
EB2114819-003	28-May-2021 08:43	0874_QC310_210528	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/210428
Attention : [REDACTED]	Quote No. : QT-02018
Project Name : QLD_0874_PFASOMP	Order No. : 60612487_2_1
Your Client Services Manager : [REDACTED]	Date Received : 28-APR-2021
	Sampled By : CLIENT
	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/010537	0874_QC201_210415	SOIL 15/4/21
N21/010539	0874_QC203_210420	SOIL 20/4/21
N21/010541	0874_QC205_210420	SOIL 20/4/21
N21/010544	0874_QC208_210422	SOIL 22/4/21

Lab Reg No.		N21/010537	N21/010539	N21/010541	N21/010544	
Date Sampled		15-APR-2021	20-APR-2021	20-APR-2021	22-APR-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFPeA (2706-90-3)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxA (307-24-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFHpA (375-85-9)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOA (335-67-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFNA (375-95-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFDA (335-76-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFUdA (2058-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFDoA (307-55-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTeDA (376-06-7)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFODA (16517-11-6)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
FOUEA (70887-84-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFBS (375-73-5)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFPeS (2706-91-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFHxS (355-46-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFHpS (375-92-8)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOS (1763-23-1)	mg/kg	<0.002	<0.002	0.0036	<0.002	NR70
PFNS (68259-12-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFDS (335-77-3)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOSA (754-91-6)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70

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Lab Reg No.		N21/010537	N21/010539	N21/010541	N21/010544	
Date Sampled		15-APR-2021	20-APR-2021	20-APR-2021	22-APR-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
8:2 FTS (39108-34-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFBA (Surrogate Recovery)	%	77	84	86	76	NR70
PFPeA (Surrogate Recovery)	%	77	72	78	76	NR70
PFHxA (Surrogate Recovery)	%	76	77	82	73	NR70
PFHpA (Surrogate Recovery)	%	78	78	77	72	NR70
PFOA (Surrogate Recovery)	%	73	72	85	73	NR70
PFNA (Surrogate Recovery)	%	70	83	87	72	NR70
PFDA (Surrogate Recovery)	%	84	95	90	73	NR70
PFUdA (Surrogate Recovery)	%	83	92	93	84	NR70
PFDoA (Surrogate Recovery)	%	80	86	90	71	NR70
PFTeDA (Surrogate Recovery)	%	72	96	79	77	NR70
PFHxDA (Surrogate Recovery)	%	73	72	80	70	NR70
FOUEA (Surrogate Recovery)	%	34	30	48	39	NR70
PFBS (Surrogate Recovery)	%	70	68	77	67	NR70
PFHxS (Surrogate Recovery)	%	78	75	81	74	NR70
PFOS (Surrogate Recovery)	%	66	83	82	92	NR70
PFOSA (Surrogate Recovery)	%	79	80	85	70	NR70
N-MeFOSA (Surrogate Recovery)	%	67	62	70	52	NR70
N-EtFOSA (Surrogate Recovery)	%	93	78	73	64	NR70
N-MeFOSAA (Surrogate Recovery)	%	79	70	84	56	NR70
N-EtFOSAA (Surrogate Recovery)	%	90	79	102	79	NR70
N-MeFOSE (Surrogate Recovery)	%	59	76	89	65	NR70
N-EtFOSE (Surrogate Recovery)	%	81	65	60	52	NR70
4:2 FTS (Surrogate Recovery)	%	57	64	62	51	NR70
6:2 FTS (Surrogate Recovery)	%	65	60	69	53	NR70
8:2 FTS (Surrogate Recovery)	%	71	74	85	62	NR70
8:2 diPAP (Surrogate Recovery)	%	56	59	74	73	NR70
Dates						
Date extracted		3-MAY-2021	3-MAY-2021	3-MAY-2021	3-MAY-2021	
Date analysed		3-MAY-2021	3-MAY-2021	3-MAY-2021	3-MAY-2021	

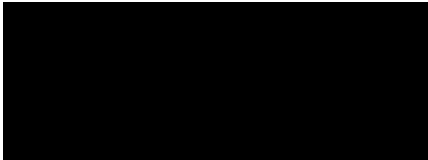
N21/010537
to
N21/010537

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

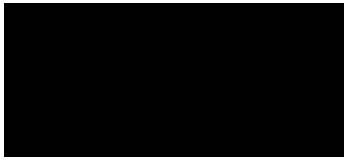
Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



Organics - NSW
Accreditation No. 198

05-MAY-2021

Lab Reg No.		N21/010537	N21/010539	N21/010541	N21/010544	
Date Sampled		15-APR-2021	20-APR-2021	20-APR-2021	22-APR-2021	
	Units					Method
Trace Elements						
Total Solids	%	69.4	79.4	77.5	71.8	NT2_49
Dates						
Date extracted		29-APR-2021	29-APR-2021	29-APR-2021	29-APR-2021	
Date analysed		30-APR-2021	30-APR-2021	30-APR-2021	30-APR-2021	



Inorganics - NSW
Accreditation No. 198

05-MAY-2021

All results are expressed on a dry weight basis.

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210428 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2021 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N21/010536	0874_QC200_210415	WATER 15/4/21
N21/010538	0874_QC202_210420	WATER 20/4/21
N21/010540	0874_QC204_210420	WATER 20/4/21
N21/010542	0874_QC206_210421	WATER 21/4/21

Lab Reg No.	Date Sampled	Units	N21/010536	N21/010538	N21/010540	N21/010542	Method
			15-APR-2021	20-APR-2021	20-APR-2021	21-APR-2021	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L		<0.02	<0.02	0.033	<0.02	NR70
PFHxA (307-24-4)	ug/L		<0.01	<0.01	0.12	<0.01	NR70
PFHpA (375-85-9)	ug/L		<0.01	<0.01	0.019	<0.01	NR70
PFOA (335-67-1)	ug/L		<0.01	<0.01	0.030	<0.01	NR70
PFNA (375-95-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		<0.01	<0.01	0.052	<0.01	NR70
PFHxS (355-46-4)	ug/L		0.030	<0.01	0.28	0.046	NR70
PFHpS (375-92-8)	ug/L		<0.01	<0.01	0.013	<0.01	NR70
PFOS (1763-23-1)	ug/L		0.029	<0.02	0.51	0.062	NR70
PFNS (68259-12-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L		<0.01	<0.01	0.071	<0.01	NR70
PFOSA (754-91-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Report No. RN1313030

Lab Reg No.			N21/010536	N21/010538	N21/010540	N21/010542	
Date Sampled			15-APR-2021	20-APR-2021	20-APR-2021	21-APR-2021	
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	0.052	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	80	81	72	81		NR70
PFPeA (Surrogate Recovery)	%	68	70	70	87		NR70
PFHxA (Surrogate Recovery)	%	68	70	75	78		NR70
PFHpA (Surrogate Recovery)	%	69	70	71	81		NR70
PFOA (Surrogate Recovery)	%	72	73	77	82		NR70
PFNA (Surrogate Recovery)	%	72	69	60	72		NR70
PFDA (Surrogate Recovery)	%	66	71	59	63		NR70
PFUdA (Surrogate Recovery)	%	55	72	51	72		NR70
PFDoA (Surrogate Recovery)	%	58	69	47	67		NR70
PFTeDA (Surrogate Recovery)	%	72	85	49	72		NR70
PFHxDA (Surrogate Recovery)	%	57	71	66	81		NR70
FOUEA (Surrogate Recovery)	%	46	63	54	77		NR70
PFBS (Surrogate Recovery)	%	64	67	69	81		NR70
PFHxS (Surrogate Recovery)	%	71	76	73	85		NR70
PFOS (Surrogate Recovery)	%	60	85	76	71		NR70
PFOSA (Surrogate Recovery)	%	58	60	42	65		NR70
N-MeFOSA (Surrogate Recovery)	%	36	46	36	59		NR70
N-EtFOSA (Surrogate Recovery)	%	30	41	42	64		NR70
N-MeFOSAA (Surrogate Recovery)	%	44	87	34	55		NR70
N-EtFOSAA (Surrogate Recovery)	%	45	65	46	61		NR70
N-MeFOSE (Surrogate Recovery)	%	31	62	43	96		NR70
N-EtFOSE (Surrogate Recovery)	%	65	53	47	75		NR70
4:2 FTS (Surrogate Recovery)	%	36	38	46	38		NR70
6:2 FTS (Surrogate Recovery)	%	47	44	41	47		NR70
8:2 FTS (Surrogate Recovery)	%	54	51	42	46		NR70
8:2 diPAP (Surrogate Recovery)	%	51	67	61	66		NR70
Dates							
Date extracted		3-MAY-2021	3-MAY-2021	3-MAY-2021	3-MAY-2021		
Date analysed		3-MAY-2021	3-MAY-2021	3-MAY-2021	3-MAY-2021		

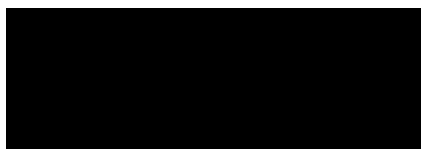
N21/010536
to
N21/010545

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



Organics - NSW
Accreditation No. 198

05-MAY-2021

REPORT OF ANALYSIS

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Report No. RN1313030

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210428 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2021 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N21/010543	0874_QC207_210422	WATER 22/4/21
N21/010545	0874_QC209_210422	WATER 22/4/21

Lab Reg No.	Date Sampled	Units	N21/010543	N21/010545	Method
			22-APR-2021	22-APR-2021	
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	<0.05	<0.05		NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02		NR70
PFHxA (307-24-4)	ug/L	<0.01	0.020		NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01		NR70
PFOA (335-67-1)	ug/L	<0.01	0.011		NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01		NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01		NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01		NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01		NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02		NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02		NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02		NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05		NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01		NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01		NR70
PFPeS (2706-91-4)	ug/L	<0.01	0.022		NR70
PFHxS (355-46-4)	ug/L	<0.01	0.25		NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01		NR70
PFOS (1763-23-1)	ug/L	0.025	0.20		NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01		NR70
PFBS (375-73-5)	ug/L	<0.01	0.047		NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01		NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02		NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02		NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01		NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01		NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05		NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05		NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01		NR70

REPORT OF ANALYSIS

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Lab Reg No.			N21/010543	N21/010545		
Date Sampled			22-APR-2021	22-APR-2021		
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	81	71			NR70
PFPeA (Surrogate Recovery)	%	64	82			NR70
PFHxA (Surrogate Recovery)	%	72	82			NR70
PFHpA (Surrogate Recovery)	%	75	78			NR70
PFOA (Surrogate Recovery)	%	77	81			NR70
PFNA (Surrogate Recovery)	%	64	70			NR70
PFDA (Surrogate Recovery)	%	71	65			NR70
PFUdA (Surrogate Recovery)	%	64	77			NR70
PFDoA (Surrogate Recovery)	%	60	66			NR70
PFTeDA (Surrogate Recovery)	%	63	74			NR70
PFHxDA (Surrogate Recovery)	%	67	84			NR70
FOUEA (Surrogate Recovery)	%	63	69			NR70
PFBS (Surrogate Recovery)	%	70	73			NR70
PFHxS (Surrogate Recovery)	%	77	77			NR70
PFOS (Surrogate Recovery)	%	89	78			NR70
PFOSA (Surrogate Recovery)	%	45	64			NR70
N-MeFOSA (Surrogate Recovery)	%	31	74			NR70
N-EtFOSA (Surrogate Recovery)	%	36	58			NR70
N-MeFOSAA (Surrogate Recovery)	%	55	66			NR70
N-EtFOSAA (Surrogate Recovery)	%	48	71			NR70
N-MeFOSE (Surrogate Recovery)	%	79	74			NR70
N-EtFOSE (Surrogate Recovery)	%	48	70			NR70
4:2 FTS (Surrogate Recovery)	%	69	41			NR70
6:2 FTS (Surrogate Recovery)	%	43	57			NR70
8:2 FTS (Surrogate Recovery)	%	52	56			NR70
8:2 diPAP (Surrogate Recovery)	%	69	76			NR70
Dates						
Date extracted		3-MAY-2021	3-MAY-2021			
Date analysed		3-MAY-2021	3-MAY-2021			

Organics - NSW
Accreditation No. 198

05-MAY-2021

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

REPORT OF ANALYSIS

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ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1313027*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/210428

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample ug/L	Duplicate ug/L	RPD %	LCS %	Matrix Spike %
		ug/L	ug/L					
				N21/010536				
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	100	83
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	97	84
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	100	81
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	94	87
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	97	81
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	84	83
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	98	83
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	106	90
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	108	85
PFTTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	105	90
PFHpDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	94	91
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	96	93
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	85	92
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	97	84
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	108	97
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	110	91
PFHxS (355-46-4)	NR70	0.01	<0.01	0.030	0.029	3.0	130	80
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	91	80
PFOS (1763-23-1)	NR70	0.02	<0.02	0.029	0.031	7.0	103	85
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	104	91
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	101	86
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	90	87
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	100	101
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	91	92
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	100	101
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	98	88
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	84	73
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	57	112
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	104	95
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	103	89
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	86	90
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	92	91
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	88	97

Results expressed in percentage (%) or ug/L wherever appropriate.

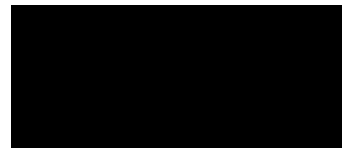
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
5/05/2021

Date:



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/210428

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample mg/kg	Duplicate mg/kg	RPD %	LCS %	Matrix Spike %
		mg/kg	mg/kg					
PFBA (375-22-4)	NR70	0.002	<0.002	NA	NA	NA	118	NA
PFPeA (2706-90-3)	NR70	0.002	<0.002	NA	NA	NA	96	NA
PFHxA (307-24-4)	NR70	0.001	<0.001	NA	NA	NA	96	NA
PFHpA (375-85-9)	NR70	0.001	<0.001	NA	NA	NA	96	NA
PFOA (335-67-1)	NR70	0.001	<0.001	NA	NA	NA	93	NA
PFNA (375-95-1)	NR70	0.001	<0.001	NA	NA	NA	90	NA
PFDA (335-76-2)	NR70	0.001	<0.001	NA	NA	NA	100	NA
PFUdA (2058-94-8)	NR70	0.002	<0.002	NA	NA	NA	95	NA
PFDoA (307-55-1)	NR70	0.002	<0.002	NA	NA	NA	98	NA
PFTTrDA (72629-94-8)	NR70	0.002	<0.002	NA	NA	NA	98	NA
PFTeDA (376-06-7)	NR70	0.002	<0.002	NA	NA	NA	82	NA
PFHxDA (67905-19-5)	NR70	0.002	<0.002	NA	NA	NA	101	NA
PFODA (16517-11-6)	NR70	0.005	<0.005	NA	NA	NA	106	NA
FOUEA (70887-84-2)	NR70	0.001	<0.001	NA	NA	NA	100	NA
PFBS (375-73-5)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFPeS (2706-91-4)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFHxS (355-46-4)	NR70	0.001	<0.001	NA	NA	NA	96	NA
PFHpS (375-92-8)	NR70	0.001	<0.001	NA	NA	NA	91	NA
PFOS (1763-23-1)	NR70	0.002	<0.002	NA	NA	NA	124	NA
PFNS (68259-12-1)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFDS (335-77-3)	NR70	0.001	<0.001	NA	NA	NA	98	NA
PFOSA (754-91-6)	NR70	0.001	<0.001	NA	NA	NA	94	NA
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	NA	NA	NA	107	NA
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	NA	NA	NA	114	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	NA	NA	NA	97	NA
N-EtFOSAA(2991-50-6)	NR70	0.002	<0.002	NA	NA	NA	107	NA
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	NA	NA	NA	64	NA
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	NA	NA	NA	112	NA
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	NA	NA	NA	100	NA
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	NA	NA	NA	114	NA
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	NA	NA	NA	88	NA
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	NA	NA	NA	86	NA
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	NA	NA	NA	100	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.

Acceptable Spike recovery is 50-150%.

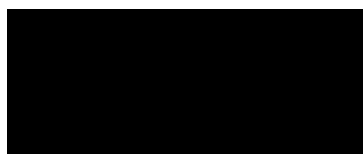
Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:

Date:



Organics Manager, NMI-North Ryde
5/05/2021



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/210428

Total No. of Samples: 10

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/010536	5-MAY-2021	0874_QC200_210415	WATER 15/4/21
N21/010537	5-MAY-2021	0874_QC201_210415	SOIL 15/4/21
N21/010538	5-MAY-2021	0874_QC202_210420	WATER 20/4/21
N21/010539	5-MAY-2021	0874_QC203_210420	SOIL 20/4/21
N21/010540	5-MAY-2021	0874_QC204_210420	WATER 20/4/21
N21/010541	5-MAY-2021	0874_QC205_210420	SOIL 20/4/21
N21/010542	5-MAY-2021	0874_QC206_210421	WATER 21/4/21
N21/010543	5-MAY-2021	0874_QC207_210422	WATER 22/4/21
N21/010544	5-MAY-2021	0874_QC208_210422	SOIL 22/4/21
N21/010545	5-MAY-2021	0874_QC209_210422	WATER 22/4/21

SAMPLE RECEIVED CONDITION

Date samples received: 28-APR-2021

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487_2_1

Temperature of samples: Chilled

Comments:

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/210510
Attention : [REDACTED]	Quote No. : QT-02018
Project Name : QLD_0874_PFASOMP	Order No. : 60612487_2_1
Your Client Services Manager : [REDACTED]	Date Received : 10-MAY-2021
	Sampled By : CLIENT
	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/011718	0874_QC210_210427	WATER 27.4.21 1042
N21/011719	0874_QC211_210427	WATER 27.4.21 1635
N21/011720	0874_QC212_210428	WATER 28.4.21 0924
N21/011721	0874_QC213_210428	WATER 28.4.21 1336

Lab Reg No.		N21/011718	N21/011719	N21/011720	N21/011721	
Date Sampled		27-APR-2021	27-APR-2021	28-APR-2021	28-APR-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	1.5	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	0.022	3.1	NR70
PFHxA (307-24-4)	ug/L	<0.01	0.028	0.065	31	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	0.011	1.9	NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01	0.015	5.3	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	0.023	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDaA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	<0.01	0.020	7.1	NR70
PFHxS (355-46-4)	ug/L	<0.01	0.31	0.24	140	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	0.013	5.3	NR70
PFOS (1763-23-1)	ug/L	<0.02	0.044	0.48	85	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	0.020	NR70
PFBS (375-73-5)	ug/L	<0.01	0.013	0.030	4.9	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	0.014	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Report No. RN1314379

Lab Reg No.		N21/011718	N21/011719	N21/011720	N21/011721	
Date Sampled		27-APR-2021	27-APR-2021	28-APR-2021	28-APR-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	0.19	0.016	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	105	105	103	104	NR70
PFPeA (Surrogate Recovery)	%	106	90	102	100	NR70
PFHxA (Surrogate Recovery)	%	102	88	101	94	NR70
PFHpA (Surrogate Recovery)	%	102	93	109	104	NR70
PFOA (Surrogate Recovery)	%	104	92	112	103	NR70
PFNA (Surrogate Recovery)	%	104	79	90	95	NR70
PFDA (Surrogate Recovery)	%	107	68	90	112	NR70
PFUdA (Surrogate Recovery)	%	107	79	81	110	NR70
PFDoA (Surrogate Recovery)	%	99	72	79	108	NR70
PFTeDA (Surrogate Recovery)	%	98	77	78	107	NR70
PFHxDA (Surrogate Recovery)	%	103	76	92	89	NR70
FOUEA (Surrogate Recovery)	%	87	64	82	120	NR70
PFBS (Surrogate Recovery)	%	93	88	105	87	NR70
PFHxS (Surrogate Recovery)	%	104	89	102	86	NR70
PFOS (Surrogate Recovery)	%	110	86	87	123	NR70
PFOSA (Surrogate Recovery)	%	84	56	64	84	NR70
N-MeFOSA (Surrogate Recovery)	%	68	50	59	80	NR70
N-EtFOSA (Surrogate Recovery)	%	78	57	62	82	NR70
N-MeFOSAA (Surrogate Recovery)	%	86	60	76	127	NR70
N-EtFOSAA (Surrogate Recovery)	%	96	69	66	143	NR70
N-MeFOSE (Surrogate Recovery)	%	94	61	67	105	NR70
N-EtFOSE (Surrogate Recovery)	%	79	57	98	97	NR70
4:2 FTS (Surrogate Recovery)	%	79	66	96	84	NR70
6:2 FTS (Surrogate Recovery)	%	79	65	88	87	NR70
8:2 FTS (Surrogate Recovery)	%	91	68	72	59	NR70
8:2 diPAP (Surrogate Recovery)	%	169	140	156	247	NR70
Dates						
Date extracted		12-MAY-2021	12-MAY-2021	12-MAY-2021	12-MAY-2021	
Date analysed		14-MAY-2021	14-MAY-2021	14-MAY-2021	14-MAY-2021	

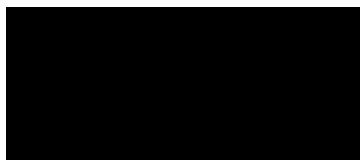
N21/011718
to
N21/011725

REPORT OF ANALYSIS

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Report No. RN1314379

PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
High PFAS surrogate recoveries accepted - results corrected for recovery.



Organics - NSW
Accreditation No. 198

17-MAY-2021

REPORT OF ANALYSIS

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Report No. RN1314379

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/210510 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 10-MAY-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/011722	0874_QC214_210429	WATER 29.4.21 0833
N21/011723	0874_QC215_210429	WATER 29.4.21 1209
N21/011724	0874_QC216_210430	WATER 30.4.21 0836
N21/011725	0874_QC217_210430	WATER 30.4.21 0957

Lab Reg No.		N21/011722	N21/011723	N21/011724	N21/011725	
Date Sampled		29-APR-2021	29-APR-2021	30-APR-2021	30-APR-2021	
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.092	19	0.82	0.31	NR70
PFPeA (2706-90-3)	ug/L	0.083	27	0.92	0.29	NR70
PFHxA (307-24-4)	ug/L	0.40	150	5.8	0.94	NR70
PFHpA (375-85-9)	ug/L	0.038	19	0.58	0.17	NR70
PFOA (335-67-1)	ug/L	0.058	33	1.9	0.49	NR70
PFNA (375-95-1)	ug/L	<0.01	0.21	0.013	0.010	NR70
PFDA (335-76-2)	ug/L	<0.01	0.028	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDaA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	0.014	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.26	39	3.0	0.54	NR70
PFHxS (355-46-4)	ug/L	1.5	370	24	4.9	NR70
PFHpS (375-92-8)	ug/L	0.050	22	1.1	0.31	NR70
PFOS (1763-23-1)	ug/L	0.74	850	42	10	NR70
PFNS (68259-12-1)	ug/L	<0.01	0.36	0.038	<0.01	NR70
PFBS (375-73-5)	ug/L	0.33	50	3.2	0.44	NR70
PFOSA (754-91-6)	ug/L	<0.01	0.26	0.047	0.020	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Report No. RN1314379

Lab Reg No.		N21/011722	N21/011723	N21/011724	N21/011725	
Date Sampled		29-APR-2021	29-APR-2021	30-APR-2021	30-APR-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	0.11	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	19	0.040	0.024	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	0.53	0.015	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	101	103	96	101	NR70
PFPeA (Surrogate Recovery)	%	85	98	96	97	NR70
PFHxA (Surrogate Recovery)	%	104	90	81	102	NR70
PFHpA (Surrogate Recovery)	%	109	102	99	106	NR70
PFOA (Surrogate Recovery)	%	112	110	102	105	NR70
PFNA (Surrogate Recovery)	%	100	92	65	83	NR70
PFDA (Surrogate Recovery)	%	97	111	73	91	NR70
PFUdA (Surrogate Recovery)	%	78	116	78	113	NR70
PFDoA (Surrogate Recovery)	%	59	113	70	104	NR70
PFTeDA (Surrogate Recovery)	%	77	93	86	121	NR70
PFHxDA (Surrogate Recovery)	%	79	98	91	105	NR70
FOUEA (Surrogate Recovery)	%	72	133	85	89	NR70
PFBS (Surrogate Recovery)	%	102	97	98	108	NR70
PFHxS (Surrogate Recovery)	%	89	89	69	96	NR70
PFOS (Surrogate Recovery)	%	114	91	78	93	NR70
PFOSA (Surrogate Recovery)	%	84	85	54	70	NR70
N-MeFOSA (Surrogate Recovery)	%	74	88	55	74	NR70
N-EtFOSA (Surrogate Recovery)	%	81	105	64	91	NR70
N-MeFOSAA (Surrogate Recovery)	%	114	133	70	96	NR70
N-EtFOSAA (Surrogate Recovery)	%	126	141	68	112	NR70
N-MeFOSE (Surrogate Recovery)	%	119	127	54	82	NR70
N-EtFOSE (Surrogate Recovery)	%	110	107	65	83	NR70
4:2 FTS (Surrogate Recovery)	%	108	128	91	162	NR70
6:2 FTS (Surrogate Recovery)	%	80	166	87	82	NR70
8:2 FTS (Surrogate Recovery)	%	72	120	62	79	NR70
8:2 diPAP (Surrogate Recovery)	%	139	225	175	163	NR70
Dates						
Date extracted		12-MAY-2021	12-MAY-2021	12-MAY-2021	12-MAY-2021	
Date analysed		14-MAY-2021	14-MAY-2021	14-MAY-2021	14-MAY-2021	

REPORT OF ANALYSIS

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Report No. RN1314379

Lab Reg No.		N21/011722	N21/011723	N21/011724	N21/011725	
Date Sampled		29-APR-2021	29-APR-2021	30-APR-2021	30-APR-2021	
	Units					Method



Organics - NSW

Accreditation No. 198

17-MAY-2021



ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.

This report shall not be reproduced except in full.

Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1314375*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198:

105 Delhi Road, North Ryde, NSW, 2113



QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

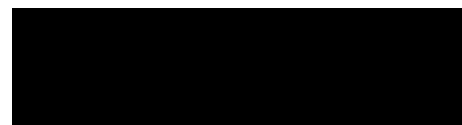
NMI QA Report No: AECO06/210510

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
				N21/011718				N21/011718
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	112	97
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	109	99
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	108	109
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	104	104
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	104	101
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	102	106
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	119	102
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	105	100
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	114	99
PFTTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	118	96
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	105	114
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	114	110
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	116	112
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	108	111
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	114	110
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	114	114
PFHxS (355-46-4)	NR70	0.01	<0.01	<0.01	<0.01	-	108	96
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	105	102
PFOS (1763-23-1)	NR70	0.02	<0.02	<0.02	<0.02	-	110	104
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	106	106
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	108	107
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	104	100
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	105	111
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	124	106
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	102	96
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	100	96
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	93	110
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	122	105
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	104	101
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	113	111
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	106	114
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	111	124
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	109	112

Results expressed in percentage (%) or ug/L wherever appropriate.
 Acceptable Spike recovery is 50-150%.
 Maximum acceptable RPDs on spikes and duplicates is 40%.
 'NA' = Not Applicable.
 RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
17/05/2021

Date:



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/210510

Total No. of Samples: 8

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/011718	17-MAY-2021	0874_QC210_210427	WATER 27.4.21 1042
N21/011719	17-MAY-2021	0874_QC211_210427	WATER 27.4.21 1635
N21/011720	17-MAY-2021	0874_QC212_210428	WATER 28.4.21 0924
N21/011721	17-MAY-2021	0874_QC213_210428	WATER 28.4.21 1336
N21/011722	17-MAY-2021	0874_QC214_210429	WATER 29.4.21 0833
N21/011723	17-MAY-2021	0874_QC215_210429	WATER 29.4.21 1209
N21/011724	17-MAY-2021	0874_QC216_210430	WATER 30.4.21 0836
N21/011725	17-MAY-2021	0874_QC217_210430	WATER 30.4.21 0957

SAMPLE RECEIVED CONDITION

Date samples received: 10-MAY-2021

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487_2_1

Temperature of samples: Chilled

Comments: ALL OK

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/210513
[REDACTED]	Quote No. : QT-02018
[REDACTED]	Order No. : 60612487_2_1
Attention : [REDACTED]	Date Received : 13-MAY-2021
Project Name : QLD_0874_PFASOMP	Sampled By : CLIENT
Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/012090	0874_QC218_210506	WATER 06/05/21
N21/012091	0874_QC219_210506	WATER 06/05/21

Lab Reg No.		N21/012090	N21/012091			
Date Sampled		06-MAY-2021	06-MAY-2021			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	6.2	0.15			NR70
PFPeA (2706-90-3)	ug/L	7.5	0.17			NR70
PFHxA (307-24-4)	ug/L	34	0.86			NR70
PFHpA (375-85-9)	ug/L	6.7	0.077			NR70
PFOA (335-67-1)	ug/L	8.7	0.12			NR70
PFNA (375-95-1)	ug/L	0.074	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01			NR70
PFPeS (2706-91-4)	ug/L	11	0.43			NR70
PFHxS (355-46-4)	ug/L	48	2.7			NR70
PFHpS (375-92-8)	ug/L	5.1	0.079			NR70
PFOS (1763-23-1)	ug/L	160	1.5			NR70
PFNS (68259-12-1)	ug/L	0.056	<0.01			NR70
PFBS (375-73-5)	ug/L	13	0.54			NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	0.019	<0.01			NR70

REPORT OF ANALYSIS

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Lab Reg No.		N21/012090	N21/012091			
Date Sampled		06-MAY-2021	06-MAY-2021			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	3.3	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	0.056	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	94	92			NR70
PFPeA (Surrogate Recovery)	%	91	91			NR70
PFHxA (Surrogate Recovery)	%	88	89			NR70
PFHpA (Surrogate Recovery)	%	91	101			NR70
PFOA (Surrogate Recovery)	%	100	100			NR70
PFNA (Surrogate Recovery)	%	100	110			NR70
PFDA (Surrogate Recovery)	%	102	107			NR70
PFUdA (Surrogate Recovery)	%	110	105			NR70
PFDoA (Surrogate Recovery)	%	112	105			NR70
PFTeDA (Surrogate Recovery)	%	113	104			NR70
PFHxDA (Surrogate Recovery)	%	88	89			NR70
FOUEA (Surrogate Recovery)	%	84	86			NR70
PFBS (Surrogate Recovery)	%	83	91			NR70
PFHxS (Surrogate Recovery)	%	85	90			NR70
PFOS (Surrogate Recovery)	%	89	103			NR70
PFOSA (Surrogate Recovery)	%	99	89			NR70
N-MeFOSA (Surrogate Recovery)	%	97	92			NR70
N-EtFOSA (Surrogate Recovery)	%	86	83			NR70
N-MeFOSAA (Surrogate Recovery)	%	91	113			NR70
N-EtFOSAA (Surrogate Recovery)	%	101	106			NR70
N-MeFOSE (Surrogate Recovery)	%	88	85			NR70
N-EtFOSE (Surrogate Recovery)	%	101	103			NR70
4:2 FTS (Surrogate Recovery)	%	92	75			NR70
6:2 FTS (Surrogate Recovery)	%	72	75			NR70
8:2 FTS (Surrogate Recovery)	%	78	92			NR70
8:2 diPAP (Surrogate Recovery)	%	100	88			NR70
Dates						
Date extracted		17-MAY-2021	17-MAY-2021			
Date analysed		18-MAY-2021	18-MAY-2021			

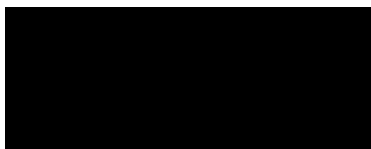
N21/012090
to
N21/012091

PFOS and PFHxS are quantified using a combined branched and linear standard,

REPORT OF ANALYSIS

Page: 3 of 3
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linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.



Organics - NSW
Accreditation No. 198

20-MAY-2021



ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1314882*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AE006/210513

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	<0.05	NA	NA	NA	112	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	NA	NA	NA	96	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	NA	NA	NA	99	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	NA	NA	NA	89	NA
PFOA (335-67-1)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFNA (375-95-1)	NR70	0.01	<0.01	NA	NA	NA	94	NA
PFDA (335-76-2)	NR70	0.01	<0.01	NA	NA	NA	111	NA
PFUDA (2058-94-8)	NR70	0.01	<0.01	NA	NA	NA	106	NA
PFDOA (307-55-1)	NR70	0.01	<0.01	NA	NA	NA	95	NA
PFTDA (72629-94-8)	NR70	0.02	<0.02	NA	NA	NA	94	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	NA	NA	NA	106	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	NA	NA	NA	111	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	NA	NA	NA	120	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	NA	NA	NA	105	NA
PFBS (375-73-5)	NR70	0.01	<0.01	NA	NA	NA	109	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	NA	NA	NA	107	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	NA	NA	NA	104	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	NA	NA	NA	101	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	NA	NA	NA	131	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	NA	NA	NA	100	NA
PFDS (335-77-3)	NR70	0.01	<0.01	NA	NA	NA	102	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	NA	NA	NA	108	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	NA	NA	NA	116	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	NA	NA	NA	94	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	NA	NA	NA	91	NA
N-EtFOSAA (2991-50-6)	NR70	0.01	<0.01	NA	NA	NA	94	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	NA	NA	NA	97	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	NA	NA	NA	114	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	NA	NA	NA	107	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	NA	NA	NA	104	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	NA	NA	NA	103	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	NA	NA	NA	102	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	NA	NA	NA	104	NA

Results expressed in percentage (%) or ug/L wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
19/05/2021

Date:



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/210513

Total No. of Samples: 2

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/012090	20-MAY-2021	0874_QC218_210506	WATER 06/05/21
N21/012091	20-MAY-2021	0874_QC219_210506	WATER 06/05/21

SAMPLE RECEIVED CONDITION

Date samples received: 13-MAY-2021
Sample received in good order: Yes
NMI Quotation no. provided:
Client purchase order number: 60612487_2_1
Temperature of samples: Chilled
Comments: ALL OK
Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation.

NMI Terms and Conditions are available on the web at

<https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>

Appendix F

Equipment Calibration Certificates

Multi Parameter Water Meter



airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 18G103122

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
	Display	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. D.O		0 ppm		10959	0.00%
2. Conductivity		2512uS/cm		343511	2520
3. pH7		pH 7.00		364212	pH 7.08
4. pH4		pH 4.00		362201	pH 4.08
5. ORP mV		240		364217 / 362918	236.9
6. Temp °C		20.5			20.4

Calibrated by:

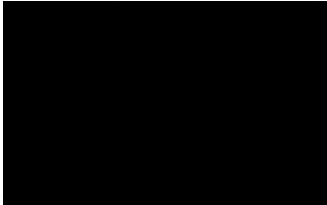


Calibration date: 1-Apr-21

Next calibration due: 28-Sep-21



Calibration Certificate



This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 16-Nov-2020
 Calibration Date: 16-Nov-2020
 Next Calibration Due: 16-Nov-2021

Call ID / Order No: 246888
 Job No / Pack No: S2468880001

Customer: AECOM Australia Pty Ltd (Townsville)-ID **Serial No:** 18K102334
 407250
Description: Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 1 Years **Temp:** 24.2°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2468880001

<u>Desc</u>	<u>As Found</u>		<u>As Left (Cal Status)</u>	
	<u>Actual</u>	<u>Result</u>	<u>Actual</u>	<u>Result</u>
PH4 (4.00)	3.91	Pass	4.0	Pass
PH7 (7.01)	6.85	Pass	7.01	Pass
Cond (2707uS/cm)	2773.0	Fail	2707.0	Pass
DO (0.0%)	0.0	Pass	0.0	Pass
Turbidity (100NTU)	110.73	Fail	99.42	Pass
ORP (231.9mV)	277.3	Fail	231.7	Pass

<u>Equip ID</u>	<u>Standard Used Description</u>	<u>Valid Until</u>	<u>Cert</u>
-----------------	----------------------------------	--------------------	-------------

Completed By: _____

Signed:

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	RAAF TSV PFAS BMP		Project Number:	60612487-2.1	
Project Location:	TOWNSVILLE		Client:	DEFENCE	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI PRODS5				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	15/4/21 09:12				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7	4	2707	9.3	215
Calibration Reading:	7.13	4.06	2019 2115	9.31	211.1
Calibration Temperature:	23.4	23.5	23.9	26.5	16.8
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			15/4/21		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	RAAF TSV PNAS OMP	Project Number:	6012487-2.1
Project Location:	TOWNSVILLE	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI ProDSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	05:00 16/4/21				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	7	4	2700	229	100
Calibration Reading:	7.20	4.08	2226	195.3	116
Calibration Temperature:	25.1	25.1	24.2	24.2	24.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	28/5/21 0700				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	7.02	4.00	2444	238.8	100.3
Bump Test Reading:	6.98	4.10	2895	245.1	100.4
Bump Test Temperature:	19.7	19.2	19.1	19.0	18.3

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument tested as required by fieldwork staff.

_____ 16/4/21
Date

Distribution: Project C _____ 28/5/21

ANZ

FQM - Water Quality Meter Calibration Record

QMAN(EV)-410-FM1

Project Name: <u>REKONG PAKS ORIP</u>		Project Number: <u>60612407</u>			
Project Location: <u>KADE THANVILAK</u>		Client: <u>DEKHOE</u>			
PM Name: <u>[REDACTED]</u>		Fieldwork Staff Name: <u>[REDACTED]</u>			
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	<u>AECOM</u>				
Make and Model:	<u>PRO DSS</u>				
Serial Number:	<u>19K10734</u>				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	<u>19.4.21</u>				
Parameter	Acidity		Conductivity	Disolved Oxygen	
Units	pH	pH	µS/cm	ppm <u>mV</u>	
Calibration Standard Concentration:	<u>7.00</u>	<u>4.01</u>	<u>2760</u>	<u>227</u>	
Calibration Reading:	<u>6.89</u>	<u>4.18</u>	<u>3259</u>	<u>49.9</u>	
Calibration Temperature:	<u>28.3</u>	<u>25.4</u>	<u>27.1</u>	<u>27.6</u>	
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	<u>27.4.21 0700</u>				
Parameter	Acidity		Conductivity	ORP	Disolved Oxygen
Units	pH	pH	µS/cm	MV ppm	ppm <u>2</u>
Calibration Standard Concentration:	<u>7.01</u>	<u>4.00</u>	<u>2655</u>	<u>233.5</u>	<u>100.3</u>
Bump Test Reading:	<u>7.11</u>	<u>4.21</u>	<u>2671</u>	<u>230.0</u>	<u>99.3</u>
Bump Test Temperature:	<u>23.3</u>	<u>23.4</u>	<u>23.1</u>	<u>23.1</u>	<u>22.8</u>
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
Each individual must sign this record and return it to the office as required by fieldwork staff.					
Fieldwork Staff Signature: <u>[REDACTED]</u>		Date: <u>27/4/21</u>			
Distribution: Project Central File					

[Handwritten signature]

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAC OMA	Project Number:	60612487
Project Location:	RARE TV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to provide the back staff to calibrate water quality meter (WQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	AIRMET
Make and Model:	YSI PRODS
Serial Number:	18K102834

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	20/4/21	10:45			
Parameter	Acidity	Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ppm	ppm 2
Calibration Standard Concentration:	7.00	4.01	2760	230.7	99.9
Calibration Reading:	6.93	3.91	2606	230.6	100.4
Calibration Temperature:	25.1	25.2	25.3	25.2	25.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	21/4/21	0710			
Parameter	Acidity	Conductivity	ORP	Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ppm	ppm 7
Calibration Standard Concentration:	7.01	4.00	2655	233.6	100
Bump Test Reading:	7.07	4.03	2358	228.8	100.1
Bump Test Temperature:	23.4	23.9	22.9	23.0	22.9

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED] _____ 21/4/21 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ
FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OWP	Project Number:	60612487		
Project Location:	RAAF TSV	Client:	DEFENCE		
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]		
This calibration record is intended to provide fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldwork.					
INSTRUMENT DETAILS					
Supplier:	YSI ARMET				
Make and Model:	YS1 PROPLUS				
Serial Number:	18G103122				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	22/4/21 0630				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.00	4.01	2707	233.6	100%
Calibration Reading:	7.03	4.00	2529	230.4	89.8
Calibration Temperature:	25.1	25.7	24.3	24.2	23.1
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	27/4/21 0730				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2655	234.3	100
Bump Test Reading:	7.04	4.02	2678	234.2	
Bump Test Temperature:	23.6	23.5	23.1	23.2	22.2
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of battery or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been checked and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]				27/4/21	
Fieldwork Staff Signature				Date	
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

QAAN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487		
Project Location:	RAAF TSU	Client:	DEFENCE		
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]		
The calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldwork.					
INSTRUMENT DETAILS					
Supplier:	AIRMET				
Make and Model:	YSI PRODS5				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	28/4/21 0620				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2549	236.0	100.2
Calibration Reading:	7.13	3.98	2570	238.2	99.6
Calibration Temperature:	22.6	23.4	21.1	22.1	19.9
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	29/4/21 0700				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm mV	ppm %
Calibration Standard Concentration:	7.01	4.00	2655	234.1	100.7
Bump Test Reading:	6.99	3.90	2452	239.5	101.1
Bump Test Temperature:	23.6	24.0	22.7	22.6	22.1
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument is calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			29/4/21		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

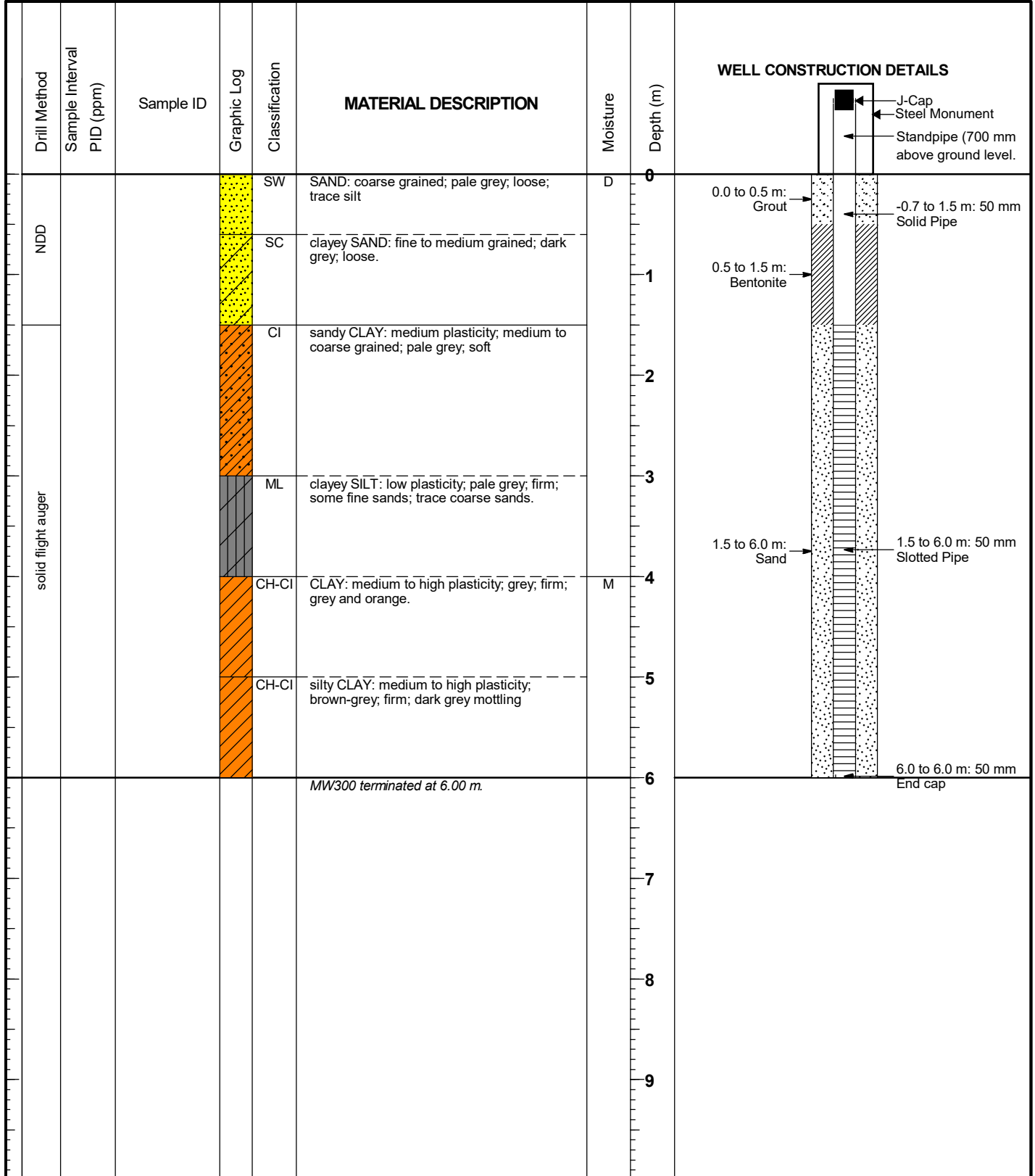
Project Name:	PEAS OMP		Project Number:	60612487	
Project Location:	RARE TSV		Client:	DEFENCE	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meters (WQM) only before the start of fieldwork.					
INSTRUMENT DETAILS					
Supplier:	HANMET				
Make and Model:	YSI PRODS5				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	30/4/21 0630				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	7.01	4.00	2602	235.4	100.2
Calibration Reading:	6.91	4.04	2577	234.8	100.2
Calibration Temperature:	22.7	23.3	21.9	21.6	20.6
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	6/5/21				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm mV	ppm
Calibration Standard Concentration:	4.00	7.01	2656	262	99.7
Bump Test Reading:	3.95	6.97	2592	260.7	102.7
Bump Test Temperature:	25.0	23.1	21.9	11	22.4
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED] Fieldwork Staff Signature			28/4/21 6/5/21 Date		
Distribution: Project Central File					



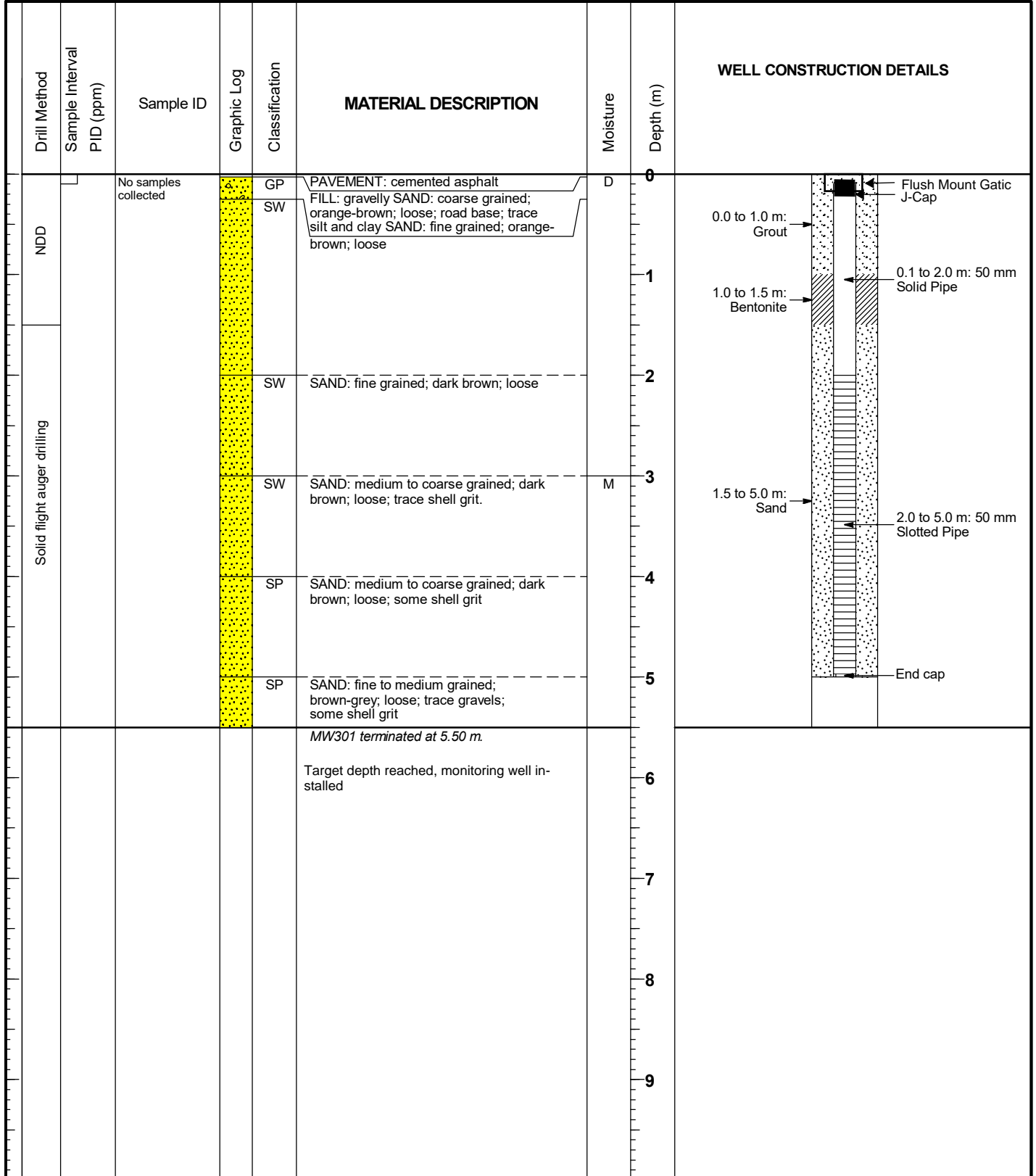
Appendix G

Well Network Maintenance

Client: Department of Defence	Project No: 60612487	Start Date: 31/10/2020
Project: QLD_0874_PFASOMP	Logged by: [REDACTED]	End Date: 31/10/2020
Location: RAAF Base Townsville	Checked by: [REDACTED]	Surface RL: 4.4 m
Driller: Saxon Drilling Pty Ltd	Easting: 473655.5 m	Top of Cas. RL: 5.07 m
Drill Type: non-destructive drilling and solid flight auger drilling	Northing: 7870244.3 m	Ver. Datum: AHD
Drill Model: Hydrapower Scout MKV	Hor. Proj/Dat: MGA94 (55K)	Surface: Grass
Drill Fluid: -	Total Depth: 6.00 m	Permit No.: NA
	Bore Dia.: 125 mm	
	Pipe Dia.: 50-150 mm	



Client: Department of Defence	Project No: 60612487	Start Date: 31/10/2020
Project: QLD_0874_PFSOMP	Logged by: [REDACTED]	End Date: 31/10/2020
Location: RAAF Base Townsville	Checked by: [REDACTED]	Surface RL: 4.1 m
Driller: Saxon Drilling Pty Ltd	Easting: 476738.0 m	Top of Cas. RL: m
Drill Type: Non-destructive drilling and solid flight auger drilling	Northing: 7874568.7 m	Ver. Datum: AHD
Drill Model: Hydrapower Scout MKV	Total Depth: 5.50 m	Surface: Pavement (asphalt)
Drill Fluid: -	Bore Dia.: 125 mm	Permit No.: NA
	Hor. Proj/Dat: MGA94 (55K)	
	Pipe Dia.: 50 mm	



PHOTOGRAPHIC LOG

Project Name: Defence PFAS OMP RAAF Base Townsville	Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.	Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020
---	--	---

Plate Number: 1

Description:
MW009 before the gatic collar was replaced. The collar had begun to rust and the bolts were unable to be secured resulting in flooding of the well during wet weather and further rusting of steel components.

GPS Co-ordinates:
474480 m E
7870189 m S



Plate Number: 2

Description:
MW009 following replacement of the gatic cover and installation of a concrete plinth to prevent water ingress into the well head.

GPS Co-ordinates:
474480 m E
7870179 m S



PHOTOGRAPHIC LOG

Project Name: Defence PFAS OMP RAAF Base Townsville	Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.	Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020
---	--	---

Plate Number: 3
Description:
MW112 before repairs. This well had been struck by a vehicle resulting in the well being blocked by a kink in the PVC pipe.

GPS Co-ordinates:
477454 m E
7871515 m S



Plate Number: 4
Description:
MW112 following repairs. The PVC pipe was fixed by removing the kinked section and installing a joiner and standpipe. A new monument was installed along with two-star pickets with flagging to prevent the well being struck by a vehicle again.

GPS Co-ordinates:
474359 m E
7871018 m S



PHOTOGRAPHIC LOG

Project Name: Defence PFAS OMP RAAF Base Townsville	Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.	Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020
---	--	---

Plate Number: 5

Description:
MW118 before repairs. The former gatic had a lid which was not meant for that type of collar and therefore could not be secured. Threads in the former collar were rusted due to improper sealing of the lid.

GPS Co-ordinates:
475688 m E
7870679 m S



Plate Number: 7

Description:
MW118 following replacement of the well head. A plinth was installed around the gatic to prevent grass from growing over the cover making it easier to locate.

GPS Co-ordinates:
475689 m E
7870674 m S



PHOTOGRAPHIC LOG

<p>Project Name: Defence PFAS OMP RAAF Base Townsville</p>	<p>Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.</p>	<p>Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020</p>
---	---	---

Plate Number: 6

Description:
MW206 prior to repairs. A star picket had been installed on the 22/09/2020 so that the well could be found.

GPS Co-ordinates:
474818 m E
7874172 m S





Plate Number: 8

Description:
MW206 following well repairs and installation of a monument. The existing star picket was moved to protect the well from passing traffic to prevent the well from being damaged again.

GPS Co-ordinates:
474827 m E
7874174 m S



PHOTOGRAPHIC LOG

<p>Project Name: Defence PFAS OMP RAAF Base Townsville</p>	<p>Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.</p>	<p>Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020</p>
<p>Plate Number: 9</p> <p>Description: MW253 prior to repairs. The well had been bent resulting in a blockage in the well.</p> <p>GPS Co-ordinates: 476227 m E 7876166 m S</p>		
<p>Plate Number: 10</p> <p>Description: MW253 following repairs. The kinked section of the well was removed and replaced with a joiner and standpipe followed by reinstatement of the monument.</p> <p>GPS Co-ordinates: 476217 m E 7876150 m S</p>		

PHOTOGRAPHIC LOG

Project Name: Defence PFAS OMP RAAF Base Townsville	Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.	Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020
---	--	---

Plate Number: 11
Description:
Remnants of well
MW230. MW230 well
location could not be
found.

GPS Co-ordinates:
473652 m E
7870238 m S





Plate Number: 12
Description:
MW300 installed in
the approximate
location of MW230.
The monument and a
star picket were
painted yellow to
make it easier to
identify preventing
the well from being
damaged again.

GPS Co-ordinates:
473497 m E
7870168 m S



PHOTOGRAPHIC LOG

<p>Project Name: Defence PFAS OMP RAAF Base Townsville</p>	<p>Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.</p>	<p>Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020</p>
<p>Plate Number: 13 Description: Location before MW301 was installed in the car park at beach access 9. GPS Co-ordinates: 476738 m E 4874566 m S</p>		
<p>Plate Number: 14 Description: MW301 following installation. The well is located in an easily accessible position away from established vegetation (trees) to limit the likelihood of becoming unserviceable due to tree roots. GPS Co-ordinates: 476740 m E 7874566 m S</p>		

PHOTOGRAPHIC LOG

Project Name: Defence PFAS OMP RAAF Base Townsville	Project Location: Mt St John/Garbutt/Rowes Bay/Pallarenda, Townsville, QLD.	Project Number: 60612487_2.1 Date: 30 and 31 October 2020, 1 and 5 November 2020
---	--	---

Plate Number: 15

Description:
MW207 following installation of a new J-plug. It was previously identified that this well was missing a well cap and therefore a new J-plug was fitted.

GPS Co-ordinates:
475185 m E
7873537 m S





Well ID	EASTING	NORTHING	Top of Casing RL	Ground RL
MW009	474484.31	7870183.76	3.52	3.61
MW112	474355.65	7871022.73	3.30	2.71
MW118	475690.58	7870671.79	4.37	4.55
MW206	474823.26	7874173.08	3.28	2.58
MW253	476109.50	7876194.12	4.10	3.386
MW300	473655.48	7870244.27	5.07	4.35
MW301	476738.00	7874568.72	3.94	4.05

**Coordinates are MGA'94
Reduced Levels are AHD**

Horizontal and Vertical Survey Datum Mark is RTCM0079 (CORS - TWPT)

DATUM MARK	EASTING	NORTHING	RL
RTCM0079	482634.031	7871250.545	27.592

Sampling Event Factual Report, October 2021

PFAS Ongoing Monitoring Program - RAAF Base Townsville

16-Dec-2021
PFAS Ongoing Monitoring Program - RAAF Base Townsville
Doc No. 60612487_RP46_20211217_2

Sampling Event Factual Report, October 2021

PFAS Ongoing Monitoring Program - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Level 5, 7 Tomlins Street, South Townsville Qld 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

16-Dec-2021

Job No.: 60612487

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Quality Information

Document Sampling Event Factual Report, October 2021

Ref 60612487

Date 16-Dec-2021

Prepared by [REDACTED]

Reviewed by [REDACTED]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
1	26-Nov-2021	Draft for Review	[REDACTED]	[REDACTED]
2	16-Dec-2021	Final Issue	[REDACTED]	[REDACTED]

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Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure, as amended (2013)
DCMM	Defence Contamination Management Manual
DO	Dissolved oxygen
DoH	Department of Health
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
mAHD	metres Australian Height Datum
mbtoc	metres below top of casing
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling Analysis Quality Plan
SWL	Standing Water Level

Unit	Definition	Unit	Definition
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019) at the Royal Australian Airforce (RAAF) Base Townsville (the 'Base') located in the North Queensland Region. The location of the Base (also referred to as the 'Management Area') and Monitoring Area (comprises the Base, residential and commercial suburbs of Garbutt, Rowes Bay, West End, Belgian Gardens, Pallarenda, Mount St John, Mount Louisa, and Bohle and the Townsville Town Common wetlands) is shown in **Figure 1** in **Appendix A**. The OMP for Townsville (Defence, 2019) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of 5 days, limited to one event per calendar year.

Following each sampling event, factual reports will be prepared. Annual interpretative reports will be prepared following the completion of each 12-month sampling period. This sampling event factual report has been prepared to report the results of the post dry-season sampling event completed in October 2021, specifically highlighting first-time detections and / or first-time exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonic acid (PFHxS) and / or perfluorooctanoic acid (PFOA), where relevant.

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Department of Defence, 2021).

1.2 Objectives

The objectives of the ongoing monitoring program are to:

- Implement the OMP prepared as part of the PMAP; and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

The objective of this phase of works was to implement the scope of works for the October 2021 sampling event in accordance with the sampling analysis and quality plan (SAQP) (AECOM, 2021).

2.0 Scope of Work

The sampling event at RAAF Base Townsville was completed in general accordance with the SAQP (AECOM, 2021). In summary, the scope of works for the dry season sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP) (Heads of Environmental Protection Agencies [HEPA], 2020);
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013);
 - Defence Routine Environment Water Quality Monitoring (2018);
 - AS/NZ 5667:1998 Water Quality – Sampling;
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018); and
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Gauging of groundwater level in 27 selected monitoring wells (refer to **Table 4** for specific locations). A groundwater level was not collected from one monitoring well during the gauging round however this was replaced by a nearby well (refer to **Table 8** for details).
- Collection of groundwater samples at 85 locations including 61 on-Base locations, and 24 off-Base locations (refer to **Table 1** below, and **Figure 2, Appendix A**). Standing water level (SWL) was measured in all wells immediately prior to sampling. A groundwater sample could not be collected during this sampling event from one monitoring well as construction activities prohibited access (refer to **Table 8** for details).
- Collection of co-located surface water and sediment samples at 42 locations including 15 on-Base and 27 off-Base locations (refer to **Table 2** and **Table 3**, and **Figure 3, Appendix A**). Seven surface water samples and one sediment sample could not be collected during this sampling event (refer to **Table 13** and **Table 14** for details).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples, one rinsate sample per fieldwork day, and one trip blank per batch of samples.
- Analysis of all samples for the PFAS suite at the standard limit of reporting (LOR).
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Locations	Monitoring Well ID
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW116, MW118, MW126, MW129
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
Sub-Management Area 3 – includes 5 th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140, MW243, MW244
North west of Runway 07/25	MW112

Locations	Monitoring Well ID
East and south east of Sub-Management Area 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229
Balance of on-Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW234, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base – Townsville Town Common, north of the Base	MW205, MW206, MW207, MW208
Off-Base – Suburb of Pallarenda, north east of the Base	MW233, MW252, MW253, MW301
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW264, MW467, MW471
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW221, MW225, MW263, MW267

Table 2 Surface Water Sampling Locations

Locations	Location ID	
On-Base	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131
	Mundy Creek Catchment	SW001, SW010, SW106, SW121, SW132
	Three Mile Creek Catchment	SW102
Off-Base	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207
	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209
	Three Mile Creek Catchment	SW107, SW210

Table 3 Sediment Sampling Locations

Locations	Location ID	
On-Base	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126, SD131
	Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132
	Three Mile Creek Catchment	SD102
Off-Base	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209
	Three Mile Creek Catchment	SD107, SD210

3.0 Methodology

The methodology used for the October 2021 sampling event was in accordance with the SAQP (AECOM, 2021) and is summarised below. Deviations from the SAQP are discussed in **Table 8, Section 3.6**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater gauging	The depth to groundwater was measured at 27 selected wells at the beginning of the groundwater sampling round (as detailed in Table 1, Appendix B) and immediately prior to the collection of groundwater samples from all 27 wells (as detailed in Table T2, Appendix B) using an interface probe.
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded for using a calibrated water quality meter. Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling methodology	Groundwater samples were collected using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer. Where water level was not sufficient to collect a sample using a HydraSleeve™, samples were collected using a decontaminated steel bailer. Once sampling was completed, new HydraSleeves™ were deployed at the screened interval depth in preparation for the next sampling round, with the exception of wells where tree roots could prohibit the retrieval of the HydraSleeves™ in future rounds, as detailed in Table T2, Appendix B , and those locations which conflict with other monitoring programs as detailed in the SAQP.
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples and trip blanks. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Environmental Pty Ltd (ALS) Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of Custody Forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Field Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded for using a calibrated water quality meter. Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling methodology	Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where the waterway could not be accessed from the bank, a telescopic sampler with a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into the new laboratory supplied container. A boat was used to access locations in the lower reaches of the Bohle River.
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), rinsate samples and trip blanks. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Brisbane, Queensland was used as the primary laboratory. The NMI of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the NATA. Chain of Custody Forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Collection Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a piston sediment sampler or with a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6 , Appendix B .
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), and rinsate samples. Refer to Appendix C for assessment of QA/QC sample data.
Sample analysis	All primary samples were submitted for PFAS suite using the standard levels of detection. ALS Brisbane, Queensland was used as the primary laboratory. NMI of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for groundwater analyses were certified by the NATA. Chain of custody forms are presented in Appendix D , laboratory analytical certificates are presented in Appendix E .

3.4 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP (HEPA, 2020).
- Department of Health (DoH), 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019.
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM).

In accordance with the OMP (Defence, 2019) and SAQP (AECOM, 2021), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 7** below.

Table 7 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from NHMRC (2019). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no current HEPA (2020) endorsed human health or ecological guideline values available for PFAS in sediment.

3.5 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2021).

Data validation assessment is provided **Appendix C**.

The data validation procedure employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2019) Annex L requirements (Department of Defence, 2019).

3.6 Deviations from the SAQP

Table 8 Deviations from the SAQP during October 2021 Sampling Event

SAQP	Dry Season Sampling 2021
The depth to groundwater measured commencing with on-Base wells and moving to off-Base locations and finishing with wells along the coastline and waterways.	The depth to groundwater was measured at both on Base and off Base wells concurrently by two field staff. Off-Base wells along the coastline and waterways were gauged prior to other off-Base wells.
Depth to groundwater measured at 27 monitoring well locations as detailed in the SAQP during gauging round.	Depth to groundwater was not recorded at MW267 during this gauging round as this location was not accessible due to construction at the time of sampling. Therefore, MW260 was gauged in place of MW267.
Collection of surface water at 42 co-located surface water and sediment locations.	Of the 42 proposed surface water sampling locations, 35 were sampled. Five on-Base locations (SW013, SW019, SW106, SW121 and SW125) and two off-Base locations (SW107 and SW209) were dry at the time of sampling. One sediment location was not sampled as there was no sediment present in the concrete drain at the time of sampling (SD132).
Collection of groundwater at 85 locations.	MW267 was not sampled as access was prohibited due to construction works. The absence of data from MW267 in this sampling round does not impact on interpretation of data as all other wells in the area were sampled, covering upgradient and downgradient locations.

4.0 Well Network Maintenance

Maintenance on wells within the RAAF Townsville PFAS OMP network was completed by AECOM between 4 September 2021 and 16 October 2021.

Table 9 Summary of Well Network Maintenance Works

Well ID	Description of Work
MW002	Metal gatic replaced with plastic gatic housing and lid on 16/10/2021.
MW204	Monument was concreted in place on 04/09/2021.
MW244	This well was previously lost due to adjacent stockpile. The well was uncovered during this sampling event as the stockpile of soil has been removed.
MW240	Cleared cemented sediment from the well head to enable the well cap to seal properly.
MW259	Replaced bolts on the gatic cover during sampling.

5.0 Field Observations and Results

The October 2021 sampling event was completed between 28 September and 16 October 2021, commencing with sampling of the Bohle River by boat, followed by deployment of HydraSleeves™ and groundwater gauging, groundwater, surface water and sediment sampling in accordance with the methodology described in **Tables 4 to 6**. The results are summarised in the following sections.

Table 10 Overall Observations

Item	Observations
Weather Conditions	Weather ranged from hot and dry, to humid during the sampling event.
Estate Management Works or Training Activities	No on-Base estate management works or training activities impacted the October 2021 sampling event. Construction works ongoing at the time of the previous sampling event in April 2021 in the vicinity of MW244 are now complete.
Off-Base Construction Activities	Townsville City Council construction works prohibited access to off-Base well MW267 during the sampling event. It is anticipated these works will be completed prior to the next sampling round.

5.1 Groundwater Results

5.1.1 Groundwater Observations and Field Measurements

Table 11 Groundwater Observations and Field Measurements

Item	Observations
Access	All monitoring wells were accessible except for the following: <ul style="list-style-type: none"> MW267 was fenced off for council construction works and covered with a stockpile of soil therefore, the well could not be sampled.
Monitoring Well Network	The headworks at the following monitoring wells were noted to be damaged during the October 2021 sampling event: <ul style="list-style-type: none"> MW056: Monument severely rusted at base and tubing inside the well is damaged. This well was able to be sampled. MW244: Gatic was damaged and the concrete surrounding the gatic collar was cracked. The gatic was also disconnected from concrete. This well was able to be sampled. MW246 and MW255: upon retrieval HydraSleeve™ collar was caught on a kink or join in the PVC casing between 1.5 and 2.5 m below ground level. A sample was collected during this monitoring round. <p>These damaged headworks are unlikely to impact the data collected or the interpretation of data during the post-dry season monitoring round. Arrangements will be made to address these well repairs for the next sampling event.</p> <p>Tree roots discovered on HydraSleeve™ collar upon collection of samples in wells MW205, MW208, MW211, MW213, MW239 and MW301.</p> <p>Damaged tubing was found in MW063.</p>

Item	Observations
Depth to Groundwater	<p>Depth to groundwater during the gauging round on 5 October 2021 was between 1.082 and 3.245 metres below top of casing (mbtoc). Groundwater elevations during the gauging round were between 0.661 and 3.917 metres Australian Height Datum (mAHD). Groundwater gauging data from the gauging round is presented in Table T1 in Appendix B.</p> <p>Depth to groundwater prior to sampling was between 0.758 and 3.925 metres below top of casing. Groundwater elevations prior to sampling were between -0.656 and 3.988 m AHD. Groundwater gauging data prior to sampling are presented in Table T2 in Appendix B.</p>
Groundwater Flow Direction	<p>Groundwater contours and inferred groundwater flow directions in October 2021 are shown on Figure 4 in Appendix A. In the central and western portions of the Base the inferred local groundwater flow direction is to the north-north-west. In the east and northeast portion of the base the inferred groundwater flow is north-east towards Rowes Bay.</p>
Field Observations	<p>Groundwater from 14 monitoring well locations (MW002, MW013, MW043, MW010, MW116, MW118, MW125, MW135, MW139, MW205, MW213, MW244, MW300, MW467) had a sulfurous odour.</p> <p>Groundwater colour was recorded as clear, black/grey, brown, pale yellow, red and orange.</p> <p>No other visible or olfactory indications of contamination were observed during the sampling of the monitoring wells. Field observations are presented Table T2 in Appendix B.</p>
Groundwater Field Quality Parameters	<p>Groundwater field quality parameters were measured prior to collecting groundwater samples. The readings are presented in Table T2 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> Dissolved oxygen (DO) results ranged between 0.08 mg/L (MW253) and 4.10 mg/L (MW217). Electrical conductivity (EC) ranged from 418 µS/cm (MW470) to 108,128 µS/cm (MW255) fresh to saline conditions. pH ranged from 3.41 (MW206) to 8.43 (MW054). pH results generally indicated acidic to slightly alkaline conditions. Oxidation-reduction potential (ORP) ranged from -180.5 mV (MW208) to 306.2 mV (MW206) indicating mildly to strongly reducing conditions. Temperature ranged from 26.4°C (MW205) to 33.6°C (MW212).

5.1.2 Groundwater Analytical Results

Of the 84 groundwater wells sampled during this event, 78 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3** in **Appendix B**. A total of 60 samples exceeded the adopted ecological guidelines for PFOS and one sample exceeded the adopted ecological guideline for PFOA in groundwater (**Table T3, Appendix B**).

Historical groundwater results are presented in **Table T8, Appendix B**. First time detections of PFAS or exceedances of guideline values from this sampling round are presented in **Table 12** below and shown in **Figure 5, Appendix A**.

Table 12 First Time Detections of PFAS or New Exceedances of Guidelines in Groundwater

Deviation Type	Monitoring wells / bores	PFOS concentration (µg/L)		PFOA concentration (µg/L)		PFOS + PFHxS concentration (µg/L)	
		October 2021	Historical maximum	October 2021	Historical maximum	October 2021	Historical maximum
First-time detections of PFOS + PFHxS or PFOA in groundwater	There were no first-time detections of PFOS + PFHxS or PFOA in the groundwater.						
First time exceedance of the NEMP (HEPA, 2020) ecological guidelines ^{1,2} .	MW206	0.15	0.09	0.13	0.08	12.2	15.9
	MW211	0.22	0.13	<0.05	0.0017	0.29	0.19
	MW218	0.45	0.6	0.02	0.0016	2.92	0.42
	MW301	0.25	0.1	0.03	0.01	0.3	0.17

Note: Blue shading indicates a sample with a first-time detection of PFOS+PFHxS or PFOA. Yellow shading indicates a sample with first time exceedance of the NEMP (HEPA, 2020) ecological guidelines.

¹ Guideline values are listed detailed in **Table 7**.

² There are no relevant ecological guideline values for PFOS + PFHxS.

Groundwater sampling results were generally within the historical range of concentrations with the exception of those identified in **Table 12** and MW002, MW005, MW009, MW021, MW033, MW054, MW055, MW056, MW126, MW142, MW245, MW467, MW470, and MW471 which reported new historical maximums. PFAS has previously been detected at each of these locations and concentrations have historically exceeded the guideline values. Locations are on-Base and generally within identified sub-management areas, with the exception of MW470 and MW471 which are adjacent to the north eastern boundary.

5.2 Surface Water Results

5.2.1 Surface Water Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations
Access	Seven surface sampling locations were accessible, although were dry at the time of sampling (SW013, SW019, SW106, SW107, SW121, SW125 and SW209). All other locations were accessible and sampled successfully.
Field Observations	A biosheen was noted at SW102, SW114 and SW116. Surface water from one location had an organic/compost odour (SW111) and two locations had a sulfurous odour (SW014 and SW021). No other visual or olfactory indications of contamination were observed during the sampling of the other surface water sampling locations. Field observations are presented in Table T4 in Appendix B .

Item	Observations
Surface Water Field Quality Parameters	<p>Surface water field quality parameters were measured prior to collecting surface water samples. The readings are presented in Table T4 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • DO ranged from 1.38 mg/L (SW117) to 14.57 mg/L (SW010) indicating moderately and well oxygenated conditions. • EC ranged from 466.3 µS/cm (SW010) to 178,290 µS/cm (SW108) indicating fresh to saline conditions. • pH ranged from 6.49 (SW021) to 9.51 (SW010). pH results generally indicated neutral to alkaline conditions. • ORP ranged from -184.7 mV (SW021) to 186.4 mV (SW118) indicating moderately to strongly reducing conditions. • Temperature ranged from 24.7°C (SW014) and 35.1°C (SW115).

5.2.2 Surface Water Analytical Results

Of the 35 surface water samples, 33 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T5** in **Appendix B**. A total of 16 surface water samples exceeded the adopted ecological guidelines for PFOS and 12 surface water samples exceeded the recreational use guidelines for PFOS+PFHxS (**Table T5, Appendix B**).

Historical surface water results are presented in **Table T9, Appendix B**. There were no first-time detections of PFOS+PFHxS or PFOA, or first-time exceedances of guideline values in surface water samples from this sampling round. Surface water sampling results were generally within the historical range of concentrations with the exception of SW123 and SW126 which showed new historical maximums. These are on-Base surface water locations and have historically exceeded the adopted guideline value prior to this sampling event. SW123 is located immediately downstream of sub-management area three and SW126 is located north and downstream of sub-management area two.

5.3 Sediment Results

5.3.1 Sediment Observations and Field Measurements

Table 14 Sediment Observations and Field Measurements

Compound	Criteria
Access	<p>No sediment was available to be collected at SD132.</p> <p>All other sediment sampling locations were accessible and sampled successfully.</p>
Field Observations	<p>An organic and sulfurous odour was observed at SD102 and SD108. Sampling locations SD107 and SD201 exhibited a saline and brackish odour respectively. Two locations displayed a putrefied odour (SD111 and SD118). A muddy, mangrove odour was identified at seven of the sampling locations (SD202, SD203, SD204, SD205, SD206, SD207 and SD210).</p> <p>No other visible or olfactory indications of contamination were observed during the sampling of the sediment locations.</p> <p>Sediment logging data are presented in Table T6 in Appendix B.</p>
Weather	Weather ranged from hot and dry, to humid during the sampling event.

5.3.2 Sediment Analytical Results

Of the 41 sediment samples, 36 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results are presented in **Table T10, Appendix B**. First time detections of PFOA are presented in **Table 15** below and presented on **Figure 6 Appendix A**. There are no human health or ecological guideline values available for sediment.

Table 15 First Time Detections of PFOS+PFHxS or PFOA in Sediment

Type	Sediment sampling locations	Sum of PFOS+PFHxS concentration (mg/kg)		PFOA concentration (mg/kg)	
		October 2021	Historical maximum	October 2021	Historical maximum
First time detections of Sum of PFOS+PFHxS or PFOA in sediment	SD107	0.0322	0.0322	0.0003	<0.0002

Note: Blue shading indicates a sample with a first-time detection of Sum of PFOS + PFHxS or PFOA.

Sediment sampling results were generally within the historical range of concentrations with the exception of SD107, identified in **Table 15**, and SD102, SD111, SD127, SD129, SD203, and SD204 which reported new historical maximums. SD102 is located on-Base and has previously shown detections of PFAS. SD111, SD203 and SD204 are located in the Bohle River/Louisa Creek/Townsville Town Common catchment, downstream of the Base. SD127 and SD129 are located in the same catchment, upstream of the Base, and have historically recorded PFAS at these locations.

6.0 Summary and Next Sampling Event

6.1 Summary of Monitoring Event

A groundwater, surface water and sediment monitoring event were completed both within and outside of the RAAF Base Townsville between 28 September and 16 October 2021. The program included sampling of groundwater from 61 on-Base monitoring wells, 23 off-Base monitoring wells, 35 surface water and 41 sediment locations. **Table 16** summarises the findings of the October 2021 sampling event and the recommended actions.

Table 16 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Groundwater:</u> Access to sampling locations and monitoring well network condition	A total of 84 out of the 85 monitoring well locations were accessible and able to be sampled.	No recommended actions.
	MW205, MW208, MW211, MW213, MW239 and MW301: Tree roots discovered on HydraSleeve™ collar upon collection of samples.	Remove tree roots via steel bailer at beginning of each sampling round. HydraSleeves™ not to be redeployed following each sampling round.
	MW267: Park closed for construction. Monitoring well located underneath soil stockpiles for construction purposes and unable to be sampled.	Attempt to locate monitoring well next sampling round if construction is completed.
	MW056: Monument severely rusted at base with steel flaking off. Damaged tubing in well.	Replace aged well monument. Remove tubing.
	MW063: Damaged tubing in well.	Remove tubing.
	MW244: This well is located in a depression adjacent Pad West stockpile. The well has previously been lost under sediment and in a large puddle during wet season, prohibiting access. The concrete surrounding the gatic collar is cracked and the collar is disconnected from concrete.	Add height to standpipe and install monument to allow future sampling following rainfall.
	MW246 and MW255: Hydrasleeve collar caught on PVC kink or join below ground level upon retrieval.	HydraSleeves™ to be deployed without collar to avoid losing HydraSleeve™ in well.
	MW470: Well depth insufficient to sample via Hydrasleeve.	Use alternative (steel bailer) sampling method.
<u>Sediment/ Surface Water:</u> Access to sampling locations	All 42 proposed surface water and sediment locations were accessible during the event. A total of 35 of the 42 proposed surface water locations were sampled and 41 of the 42 proposed sediment locations were sampled.	Ongoing monitoring in accordance with the OMP.
	Seven of the surface water sampling locations were dry and unable to be sampled during this round (SW013, SW019, SW106, SW107, SW121, SW125 and SW209).	

Item	Comment	Recommended Actions
	No sediment was available to be collected at location SD132.	
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 78 groundwater samples. PFAS compounds were detected above laboratory LOR in 33 surface water samples. PFAS compounds were detected above laboratory LOR in 36 sediment samples.	Ongoing monitoring in accordance with the OMP.
First-time detections of PFOS+PFHxS or PFOA	There was one first-time detection of PFOA in sediment at SD107. No other first-time detections were observed in groundwater or surface water.	Ongoing monitoring in accordance with the OMP.
First time exceedance of adopted screening criteria for PFOS+PFHxS, PFOS or PFOA	There were four first-time exceedances of the NEMP (HEPA, 2020) ecological 95% species protection guideline for groundwater (MW206, MW211, MW218 and MW301). There were no first-time exceedances of the NHMRC (2019) recreational use guidelines or NEMP (HEPA, 2020) ecological 95% species protection guideline for surface water samples.	Ongoing monitoring in accordance with the OMP.

6.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April 2022.

6.3 Upcoming Annual Interpretive Report

The next annual interpretative report is scheduled for January 2022.

7.0 References

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Appendix A

Figures

Appendix A Figures

Figure 1 RAAF Base Townsville Location

Figure 2 Groundwater Monitoring Locations

Figure 3 Surface Water and Sediment Monitoring Locations

Figure 4 Inferred Groundwater Contours

Figure 5 Groundwater Deviations from Historical Data

Figure 6 Sediment Deviations from Historical Data

Legend

- Management Area
- Sub-Management Area
- Monitoring Area



FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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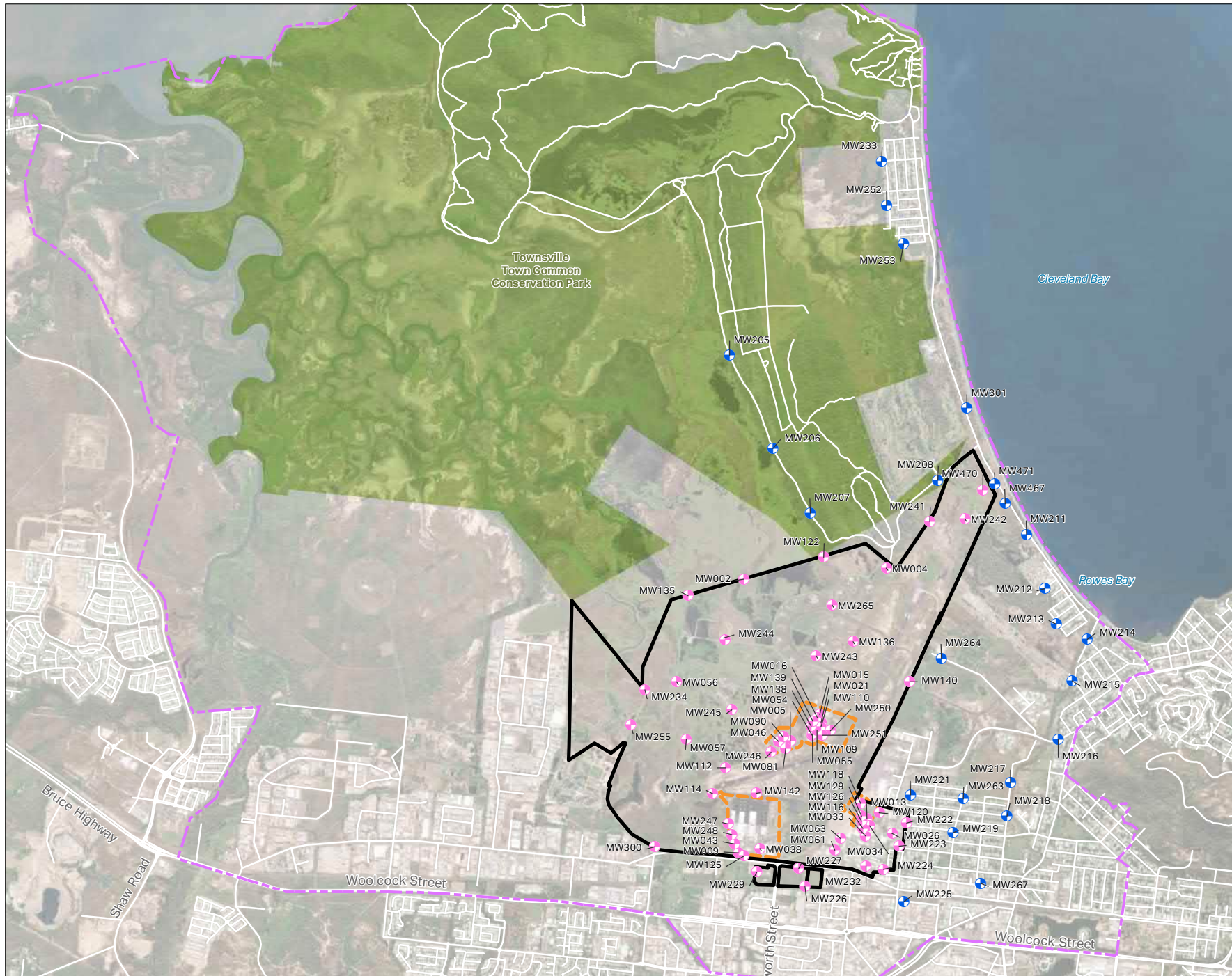
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USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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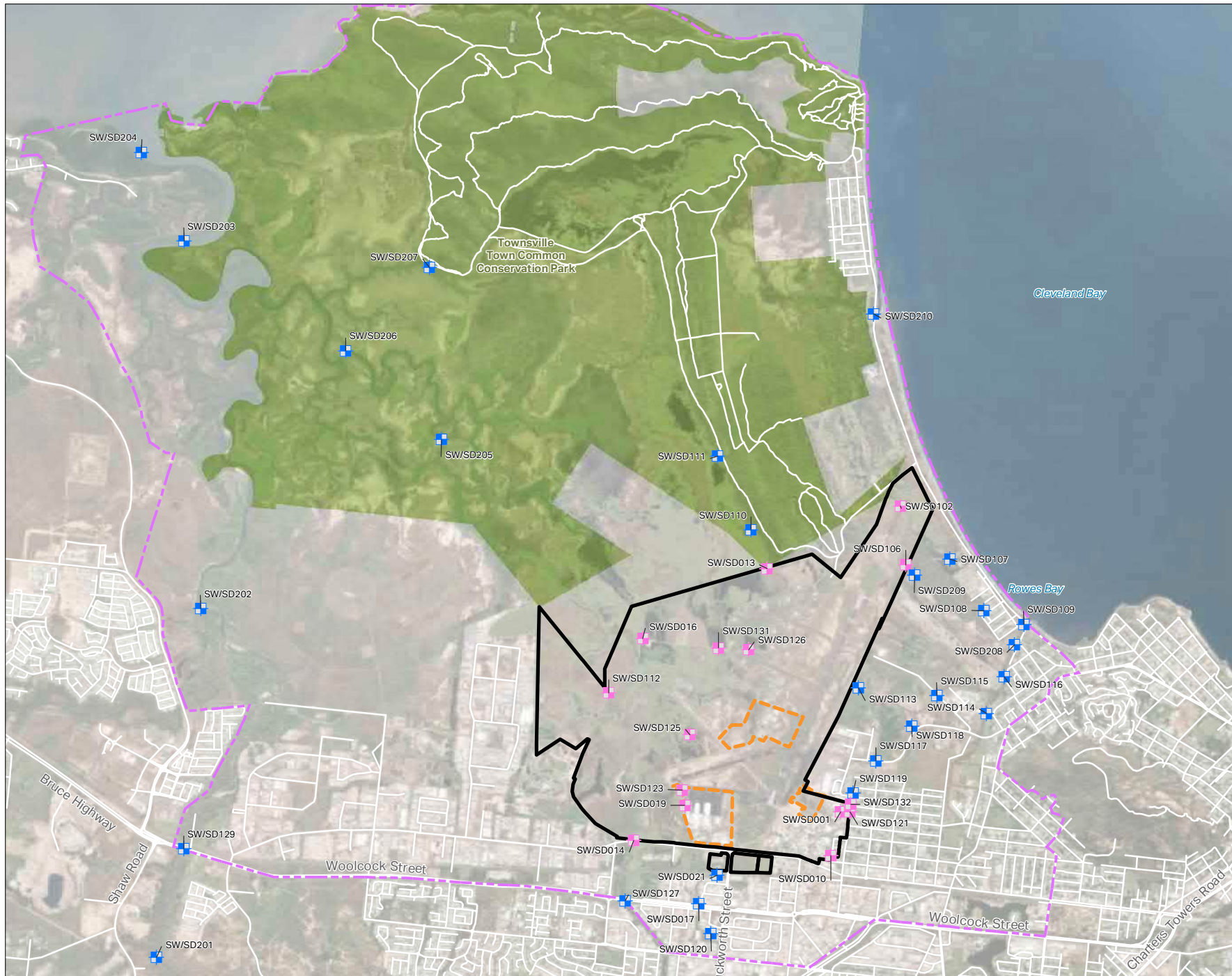
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USDA, USGS, AeroGRID, IGN and the GIS User



0 500 1,000 m

Legend

- Management
- Sub-Management Area
- Monitoring Area
- + Off-base Surface Water/Sediment Locations
- + On-base Surface Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
Oct 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Inferred Groundwater Flow Direction
- Groundwater contour
- On-base Monitoring Well
- Off-base Monitoring Well
- Not accessed

Note: MW267 could not be accessed due to construction. Gauged MW260 instead.
Groundwater gauging data collected between 28 September and 16 October

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS - DRY
SEASON**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar
Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User



Legend

- Management Area
- Monitoring Area
- Sub-Management Area
- First time exceedance of screening criteria for PFOS or PFOA

**FIGURE 5:
GROUNDWATER
DEVIATIONS FROM
HISTORICAL DATA**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
October 2021
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data, (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar
Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User



Legend

Management Area

Monitoring Area

Sub-Management Area

First time detect of PFOS+PFHxS or PFOA

**FIGURE 6:
SEDIMENT
DEVIATIONS FROM
HISTORICAL DATA**

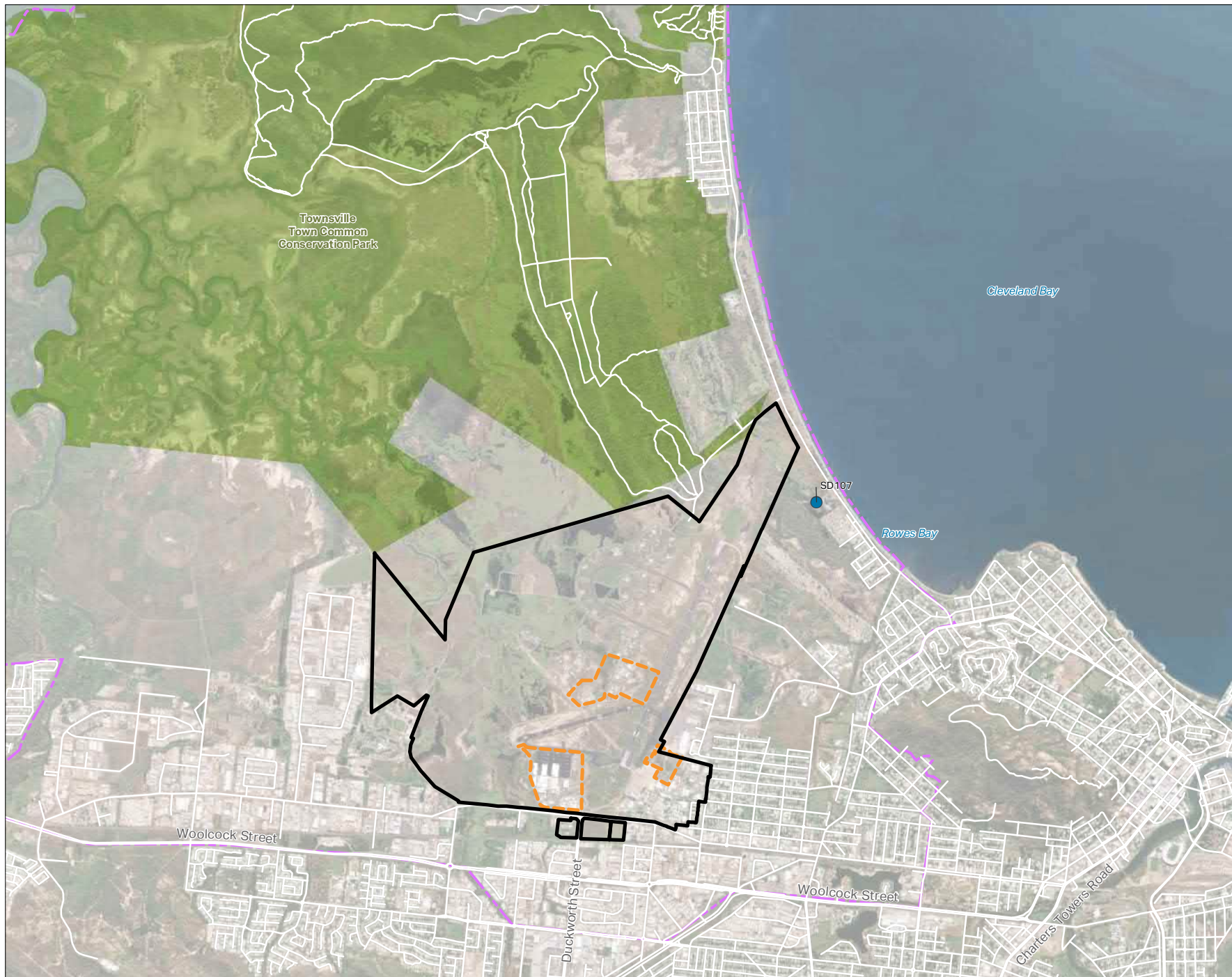
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Appendix B

Tables

Appendix B Tables

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Table T9 Historical Surface Water Results

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Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)		
0874	MW002	05/10/2021	12:15	4.66	1.082	1.866	0.784		
0874	MW004	05/10/2021	11:56	5.21	1.971	3.181	1.210		
0874	MW046	05/10/2021	11:04	4.42	1.100	2.844	1.744		
0874	MW114	05/10/2021	12:34	5.18	1.351	3.325	1.974		
0874	MW116	05/10/2021	10:45	4.22	1.728	5.254	3.526		
0874	MW122	05/10/2021	12:03	6.38	1.521	2.451	0.930		
0874	MW125	05/10/2021	10:55	9.80	1.839	4.617	2.778		
0874	MW135	05/10/2021	12:23	5.90	1.614	2.275	0.661		
0874	MW136	05/10/2021	11:35	5.77	1.233	2.823	1.590		
0874	MW138	05/10/2021	11:21	5.98	1.264	2.903	1.639		
0874	MW205	05/10/2021	14:35	4.97	2.008	3.239	1.231		
0874	MW206	05/10/2021	14:48	4.40	2.011	3.211	1.200		
0874	MW207	05/10/2021	14:56	6.27	2.801	3.825	1.024		
0874	MW214	05/10/2021	15:43	4.90	2.726	3.663	0.937		
0874	MW215	05/10/2021	14:14	6.55	1.680	3.269	1.589		
0874	MW217	05/10/2021	13:50	5.78	1.869	3.271	1.402		
0874	MW218	05/10/2021	13:40	5.23	1.489	2.908	1.419		
0874	MW223	05/10/2021	10:30	4.70	1.420	5.337	3.917		
0874	MW234	05/10/2021	09:53	7.57	2.258	3.216	0.958		
0874	MW237	05/10/2021	12:58	6.52	2.906	4.134	1.228		
0874	MW239	05/10/2021	16:03	6.16	3.245	6.508	3.263		
0874	MW242	05/10/2021	11:46	4.80	1.989	3.081	1.092		
0874	MW253	05/10/2021	15:07	4.40	2.230	4.095	1.865		
0874	MW255	05/10/2021	10:00	8.24	1.957	3.121	1.164		
0874	MW260	05/10/2021	14:03	4.85	2.308	4.312	2.004		
0874	MW267	05/10/2021	Could not access due to construction. Gauged MW260 in place.						
0874	MW300	06/10/2021	07:50	6.70	2.222	5.072	2.850		
0874	MW301	05/10/2021	15:35	3.93	2.935	3.940	1.005		

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

Table T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Sub-Management Area One																				
0874	MW013	08/10/2021	NA	3.56	11/10/2021	4.86	1.689	4.708	3.019	Good	2.65	10534	6.74	122.4	27.4	Clear	Clear	Sulfurous odour	No sheen	
0874	MW116	08/10/2021	1.5 - 4.5	2.97	11/10/2021	4.27	2.733	5.254	2.521	Good	2.50	6502	6.94	-80.1	27.9	Low	Light Grey	Sulfurous odour	No sheen	
0874	MW118	08/10/2021	NA	3.30	11/10/2021	4.60	1.399	4.381	2.982	Good	2.63	1299	7.05	-134.2	29.2	Low	Light Yellow / Brown	Sulfurous odour	No sheen	
0874	MW126	08/10/2021	3 - 6	4.63	11/10/2021	5.93	1.626	4.869	3.243	Good	2.45	956	7.71	-143.7	28.2	Clear	Clear	No odour	No sheen	
0874	MW129	08/10/2021	3 - 6	4.63	11/10/2021	5.93	1.517	4.648	3.131	Good	1.84	664	7.06	-47.2	28.4	Low	Light Brown	No odour	No sheen	
Sub-Management Area Two																				
0874	MW005	12/10/2021	NA	6.16	14/10/2021	7.46	2.221	3.922	1.701	Good	3.26	62439	6.99	147.7	29.3	Low	Light Yellow / Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW015	08/10/2021	NA	2.10	12/10/2021	3.40	1.411	3.343	1.932	Good	1.85	8208	6.68	-15.8	28.6	Low	Light Brown	No odour	No sheen	
0874	MW016	08/10/2021	NA	2.25	12/10/2021	3.55	1.346	3.450	2.104	Good	1.48	11056	6.33	-91.4	30.2	Low	Light Brown	No odour	No sheen	
0874	MW021	08/10/2021	NA	1.95	12/10/2021	3.25	1.392	3.301	1.909	Good	2.06	13913	6.72	-68.3	30.1	Clear	Light Yellow	No odour	No sheen	
0874	MW046	05/10/2021	NA	3.12	11/10/2021	4.42	1.166	2.844	1.678	Good	1.33	10625	7.50	-15.7	27.9	Clear	Grey	No odour	No sheen	
0874	MW054	08/10/2021	NA	4.32	13/10/2021	5.62	1.724	3.669	1.945	Good	2.71	3229	8.43	-72.7	29.2	Clear	Clear	No odour	No sheen	
0874	MW055	08/10/2021	NA	3.61	13/10/2021	4.91	1.791	3.563	1.772	Good	2.69	6153	7.97	-112.1	29.9	Clear	Clear	No odour	No sheen	
0874	MW081	08/10/2021	NA	3.77	11/10/2021	5.07	1.335	3.408	2.073	Good	2.42	15615	7.22	12.3	27.6	Medium	Grey	No odour	No sheen	
0874	MW090	08/10/2021	NA	1.65	11/10/2021	2.95	0.964	3.303	2.339	Good	1.68	957	8.29	-49.4	29.5	Low	Grey	No odour	No sheen	
0874	MW109	08/10/2021	NA	4.53	13/10/2021	5.83	1.700	3.255	1.555	Good	3.32	20505	7.62	-25.9	27.3	Clear	Clear	No odour	No sheen	
0874	MW110	08/10/2021	NA	3.59	13/10/2021	4.89	1.220	2.853	1.633	Good	1.73	47518	6.37	-50.1	30.4	Clear	Light Yellow	Sulfurous odour	No sheen	
0874	MW138	05/10/2021	3 - 6	4.69	12/10/2021	5.99	1.255	2.903	1.648	Good	2.71	9570	6.95	-93.9	27.0	Clear	Clear	No odour	No sheen	
0874	MW139	08/10/2021	3 - 6	4.72	12/10/2021	6.02	1.630	3.443	1.813	Good	1.92	15794	6.90	-164.2	27.9	Clear	Clear	Sulfurous odour	No sheen	
0874	MW246	08/10/2021	1 - 7	6.07	13/10/2021	7.37	1.819	3.901	2.082	Good	3.13	43153	6.13	16.6	29.0	Medium	Light Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW250	08/10/2021	1 - 6	3.90	11/10/2021	5.20	2.245	3.916	1.671	Good	2.38	10766	7.29	50.4	27.6	Low	Light Brown	No odour	No sheen	
0874	MW251	08/10/2021	0.7 - 6.7	5.82	11/10/2021	7.12	1.743	3.440	1.697	Good	1.83	41690	6.47	48.9	28.5	Low	Light Brown	No odour	No sheen	
Sub-Management Area Three																				
0874	MW009	08/10/2021	NA	3.38	13/10/2021	4.68	1.085	3.634	2.549	Good	2.16	24311	6.30	29.8	30.1	Low	Light Brown	No odour	No sheen	
0874	MW038	08/10/2021	NA	3.33	11/10/2021	4.63	0.758	4.734	3.976	Good	2.80	3877	8.19	-21.4	29.6	Low	Light Brown	No odour	No sheen	
0874	MW043	08/10/2021	NA	4.48	11/10/2021	5.78	1.256	3.613	2.357	Good	2.29	66270	6.62	-26.8	28.3	Medium	Light Brown	Sulfurous odour	No sheen	
0874	MW114	05/10/2021	NA	3.90	13/10/2021	5.20	1.384	3.325	1.941	Good	2.87	4684	6.64	-76.8	27.7	Low	Clear	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW125	05/10/2021	5 - 11	8.62	13/10/2021	9.92	1.854	4.617	2.763	Good	2.40	56270	6.05	-71.0	28.9	Low	Orange	Sulfurous odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW142	08/10/2021	3 - 6	4.80	11/10/2021	6.10	1.211	3.169	1.958	Good	1.41	60348	6.30	64.2	29.7	Low	Clear	No odour	No sheen	
0874	MW247	08/10/2021	0.8 - 3.5	2.84	11/10/2021	4.14	1.821	4.399	2.578	Good	1.97	790	6.58	34.7	27.6	Medium	Light Brown	No odour	No sheen	
0874	MW248	08/10/2021	1 - 4	2.51	11/10/2021	3.81	1.575	3.943	2.368	Good	1.69	19598	6.82	121.6	27.8	Low	Light Brown	No odour	No sheen	
On-Base																				
0874	MW002	05/10/2021	NA	3.37	12/10/2021	4.67	1.012	1.866	0.854	Good	2.75	3490	6.49	-89.1	27.1	Low	Red / Brown	Sulfurous odour	No sheen	
0874	MW004	05/10/2021	NA	3.94	12/10/2021	5.24	2.001	3.181	1.180	Good	2.13	924	7.41	-62.9	28.7	Turbid	Light Brown	No odour	No sheen	
0874	MW026	08/10/2021	NA	3.56	13/10/2021	4.86	1.697	5.164	3.467	Good	2.04	1036	7.97	-40.3	32.0	Low	Clear	No odour	No sheen	
0874	MW033	08/10/2021	NA	2.65	11/10/2021	3.95	2.317	5.860	3.543	Good	3.32	1224	7.98	10.8	30.2	Low	Light Brown	No odour	No sheen	
0874	MW034	08/10/2021	NA	2.55	11/10/2021	3.85	1.983	5.434	3.451	Good	1.48	19286	6.48	57.4	30.9	Medium	Light Brown	No odour	No sheen	
0874	MW056	08/10/2021	NA	4.16	12/10/2021	5.46	1.712	2.955	1.243	Damaged	3.34	25848	7.16	-52.5	27.8	Clear	Orange	No odour	No sheen	Monument severely rusted at base.
0874	MW057	08/10/2021	NA	4.98	12/10/2021	6.28	1.616	3.114	1.498	Good	2.00	54119	6.36	33.9	26.8	Clear	Clear	No odour	No sheen	
0874	MW061	08/10/2021	NA	4.18	13/10/2021	5.48	1.409	4.668	3.259	Good	3.19	3458	7.61	4.1	29.3	Low	Clear	No odour	No sheen	
0874	MW063	08/10/2021	NA	4.01	13/10/2021	5.31	1.439	4.852	3.413	Good	3.35	9823	6.84	35.9	29.6	Low	Clear	No odour	No sheen	
0874	MW112	08/10/2021	NA	4.10	13/10/2021	5.40	1.658	3.300	1.642	Good	3.66	7390	6.36	-30.8	28.3	Low	Light Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW120	08/10/2021	NA	4.54	11/10/2021	5.84	1.389	4.549	3.160	Good	1.74	5295	7.17	-6.9	29.9	Clear	Clear	No odour	No sheen	
0874	MW122	05/10/2021	1.5 - 4.5	5.13	12/10/2021	6.43	1.573	2.451	0.878	Good	2.60	36107	6.06	-0.6	28.6	Low	Light Brown	No odour	No sheen	
0874	MW135	05/10/2021	1.5 - 4.5	4.59	12/10/2021	5.89	1.621	2.275	0.654	Good	2.55	35068	6.22	-102.3	27.7	Low	Light Yellow	Sulfurous odour	No sheen	
0874	MW136	05/10/2021	NA	4.55	12/10/2021	5.85	1.309	2.823	1.514	Good	2.63	1834	7.67	-33.5	28.4	Medium	Light Brown	No odour	No sheen	
0874	MW140	08/10/2021	NA	9.88	11/10/2021	11.18	1.533	2.728	1.195	Good	1.83	65689	6.06	62.8	27.8	Turbid	Light Brown	No odour	No sheen	
0874	MW222	30/04/2021	1.2 - 8	6.55	07/10/2021	7.85	1.275	4.568	3.293	Good	1.70	9603	5.48	93.3	28.5	Medium	Light Brown	No odour	No sheen	
0874	MW223	05/10/2021	1.5 - 4.5	3.44	13/10/2021	4.74	1.397	5.337	3.940	Good	3.30	2760	7.49	-21.6	29.0	Low	Clear	No odour	No sheen	
0874	MW224	30/04/2021	2.2 - 8.2	6.66	13/10/2021	7.96	1.653	5.001	3.348	Good	3.25	19155	6.45	51.7	27.7	Low	Clear	No odour	No sheen	
0874	MW226	30/04/2021	1.5 - 6.5	5.42	13/10/2021	6.72	1.721	5.172	3.451	Good	2.29	21501	6.48	-71.4	27.4	Medium	Clear	No odour	No sheen	
0874	MW227	23/09/2020	1 - 8	6.60	13/10/2021	7.90	1.578	4.693	3.115	Good	1.99	23407	6.34	86.0	28.5	Low	Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW229	30/04/2021	1 - 9.7	8.63	13/10/2021	9.93	2.349	5.387	3.038	Good	2.77	33372	6.07	97.6	28.6	Medium	Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW232	30/04/2021	1 - 5	3.64	11/10/2021	4.94	1.779	5.767	3.988	Good	0.98	2073	7.60	-175.1	30.4	Low	Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW234	05/10/2021	1 - 6	6.42	07/10/2021	7.72	2.267	3.216	0.949	Good	2.08	86944	6.62	148.3	27.4	Turbid	Light Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW241	09/09/2020	1 - 4	3.38	12/10/2021	4.68	2.133	3.114	0.981	Good	2.70	12635	6.99	-2.0	28.1	Low	Red / Brown	No odour	No sheen	
0874	MW242	05/10/2021	1 - 4	3.51	12/10/2021	4.81	2.034	3.081	1.047	Good	3.00	9592	7.52	-123.3	28.2	Clear	Clear	No odour	No sheen	
0874	MW243	12/10/2021	1 - 7	6.35	14/10/2021	7.65	1.857	3.126	1.269	Good	2.32	67005	6.60	110.5						

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Off-Base																				
0874	MW205	05/10/2021	1.2 - 4.2	3.69	12/10/2021	4.99	2.076	3.239	1.163	Good	0.91	17386	5.13	-82.4	26.4	Medium	Black / Grey	Sulfurous odour	No sheen	
0874	MW206	27/04/2021	1 - 4	3.10	12/10/2021	4.40	2.098	3.211	1.113	Good	1.15	11411	3.41	306.2	26.4	Medium	Black / Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW207	27/04/2021	2 - 6	4.97	12/10/2021	6.27	2.860	3.825	0.965	Good	1.52	31495	4.30	182.3	26.9	Low	Black / Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW208	27/04/2021	1 - 4	3.46	12/10/2021	4.76	3.043	4.060	1.017	Good	0.39	4359	6.82	-180.5	27.1	Turbid	Black / Grey	No odour	No sheen	Roots on top of HydraSleeve upon retrieval.
0874	MW211	11/10/2021	2 - 6	3.94	13/10/2021	5.24	3.869	4.990	1.121	Good	0.40	1748	-	147.9	29.3	Low	Light Grey	No odour	No sheen	
0874	MW212	21/04/2021	1 - 4	2.80	12/10/2021	4.10	1.588	2.835	1.247	Good	1.23	1510	6.72	-52.1	33.6	Low	Orange / Brown	No odour	No sheen	
0874	MW213	08/10/2021	1 - 4.5	3.86	12/10/2021	5.16	2.605	3.762	1.157	Good	0.68	5801	6.39	-82.2	29.9	Turbid	Black / Grey	Sulfurous odour	No sheen	
0874	MW214	27/04/2021	1 - 5	3.60	12/10/2021	4.90	2.791	3.663	0.872	Good	2.75	58421	6.87	63.5	28.0	Medium	Orange	No odour	No sheen	
0874	MW215	27/04/2021	1 - 7	5.25	12/10/2021	6.55	3.925	3.269	-0.656	Good	1.35	10190	6.73	72.5	29.0	Medium	Orange / Brown	No odour	No sheen	Ant nest in well.
0874	MW216	27/04/2021	1 - 4.5	3.02	12/10/2021	4.32	1.642	3.544	1.902	Good	0.38	489	6.37	42.8	29.1	Medium	Light Grey	No odour	No sheen	
0874	MW217	29/04/2021	2 - 6	4.48	14/10/2021	5.78	1.929	3.271	1.342	Good	4.10	34859	6.79	235.4	29.4	Low	Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW218	27/04/2021	2 - 6	3.93	12/10/2021	5.23	1.520	2.908	1.388	Good	0.32	32990	6.40	154.3	28.4	Medium	Clear	No odour	No sheen	
0874	MW219	29/04/2021	3 - 11	8.44	12/10/2021	9.74	2.338	4.408	2.070	Good	0.59	6927	6.97	11.1	28.8	Medium	Grey / Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW221	29/04/2021	1 - 6	4.26	14/10/2021	5.56	1.746	3.813	2.067	Good	2.25	15870	6.78	59.2	28.6	Turbid	Light Brown	No odour	No sheen	Sediment in bottom of HydraSleeve. Roots on top of HydraSleeve upon retrieval.
0874	MW225	29/04/2021	1 - 7	5.54	14/10/2021	6.84	2.441	5.585	3.144	Good	3.19	2960	7.51	42.0	29.6	Medium	Yellow / Brown	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW233	27/04/2021	1.5 - 3.9	2.73	12/10/2021	4.03	2.252	2.900	0.648	Good	2.44	475	7.70	-32.7	28.6	Low	Clear	No odour	No sheen	
0874	MW252	27/04/2021	1.5 - 4	2.72	12/10/2021	4.02	2.548	3.038	0.490	Good	0.80	959	7.11	-21.0	27.8	Medium	Clear	No odour	No sheen	Ants in HydraSleeve, roots on top of HydraSleeve upon retrieval
0874	MW253	05/10/2021	1.5 - 4	3.12	12/10/2021	4.42	3.319	4.100	0.781	Good	0.08	10725	6.91	-143.6	29.0	Low	Clear	No odour	No sheen	
0874	MW263	22/04/2021	1.5 - 4	2.21	11/10/2021	3.51	1.695	3.939	2.244	Good	2.08	1022	6.67	-7.7	30.1	Medium	Red Orange	No odour	No sheen	
0874	MW264	21/04/2021	1 - 5.6	4.23	11/10/2021	5.53	2.087	3.190	1.103	Good	2.19	27766	6.54	-40.1	31.0	Medium	Grey	No odour	No sheen	Sediment in bottom of HydraSleeve.
0874	MW301	05/10/2021	2 - 5	3.62	12/10/2021	4.92	2.948	3.940	0.992	Good	0.29	1433	7.17	-103.0	30.1	Low	Light Grey	No odour	No sheen	
0874	MW467	12/10/2021	NA	3.32	14/10/2021	4.62	2.225	3.494	1.269	Good	2.96	3801	7.68	-144.5	29.0	Low	Clear	Sulfurous odour	No sheen	Ants and sediment in HyrdaSleeve.
0874	MW471	11/10/2021	NA	3.51	13/10/2021	4.81	3.061	NA	NA	Good	0.11	644	7.32	118.5	28.6	Clear	Clear	No odour	No sheen	

NA - Well construction details are not available in ESdat for some wells
mbtoc - metres below top of casing
TOC - top of casing
mAHD - metres above Australian Height Datum
DO - Dissolved Oxygen
EC - Electrical Conductivity
Redox - Reduction Oxidation Potential
Temp - Temperature
mg/L - milligrams per litre
µs/cm - microsiemens per centimetre
mV - millivolt
°C - degrees Celcius
"-" denotes no data collected

				4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR				0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																					
Sub-Management Area 1																																					
MW013	0874	MW013	211011	EB2129262	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	<0.5	248	16.2	321	474			
MW116	0874	MW116	211011	EB2129262	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	<0.25	72.5	7.3	115	187			
MW118	0874	MW118	211011	EB2129262	11/10/2021	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	1.22	0.4	<0.02	<0.02	<0.02	0.11	0.06	0.67	1.09	0.38	0.46	<0.05	<0.02	<0.02	<0.02	1.62	0.14	2.71	6.28				
MW126	0874	MW126	211011	EB2129262	11/10/2021	<0.49	1.71	<0.49	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	44.6	12.9	<0.49	<0.49	<0.49	23.1	19.8	139	230	19.2	49.6	<1.22	<0.49	<0.49	<0.49	244	45.3	474	829				
MW129	0874	MW129	211011	EB2129262	11/10/2021	0.09	14.1	0.28	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	3.32	4.6	0.06	<0.05	<0.05	1.97	1.01	9.5	13.7	8.08	2.62	<0.12	<0.05	<0.05	0.21	27.3	3.45	41	90.4				
Sub-Management Area 2																																					
MW005	0874	MW005	211014	EB2129262	14/10/2021	<0.86	<0.86	<0.86	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	50.8	18.1	<0.86	<0.86	<0.86	21.4	74.2	231	1050	32.4	65.6	<2.15	<0.86	<0.86	<0.86	745	37.7	1800	2330				
MW015	0874	MW015	211012	EB2129262	12/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	20.7	7	<0.5	<0.5	<0.5	6.73	20.2	64.9	276	9.86	29.1	<1.24	<0.5	<0.5	<0.5	137	12.6	413	584				
MW016	0874	MW016	211012	EB2129262	12/10/2021	<0.5	1.19	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	25.1	9.1	<0.5	<0.5	<0.5	8.53	27.7	69.6	339	13.5	33	<1.24	<0.5	<0.5	<0.5	264	17.8	603	808				
MW021	0874	MW021	211012	EB2129262	12/10/2021	<100	<100	<100	<100	<250	<100	<250	<100	<250	1030	510	<100	<100	<100	500	1410	4050	21900	670	1440	<250	<100	<100	<100	12200	1300	34100	45000				
MW046	0874	MW046	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.11	<0.1	<0.02	<0.02	<0.02	0.05	0.19	0.74	2.56	0.08	0.19	<0.05	<0.02	<0.02	<0.02	1.93	0.12	4.49	5.97				
MW054	0874	MW054	211013	EB2129262	13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196				
MW055	0874	MW055	211013	EB2129262	13/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	1.19	<1.24	9.26	4.2	<0.5	<0.5	<0.5	3.62	5.55	29	74.5	5.5	10.5	<1.24	<0.5	<0.5	<0.5	200	10	274	353				
MW081	0874	MW081	211011	EB2129262	11/10/2021	<4.42	<4.42	<4.42	<4.42	<11.1	<4.42	<11.1	<4.42	<11.1	117	23.9	<4.42	<4.42	<4.42	52.2	217	418	2520	50	196	<11.1	<4.42	<4.42	<4.42	2060	121	4580	5780				
MW090	0874	MW090	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	0.02	0.1	0.42	0.04	0.03	<0.05	<0.02	<0.02	<0.02	1.56	<0.01	1.98	2.23					
MW109	0874	MW109	211013	EB2129262	13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1050	53.2	1660	2330				
MW110	0874	MW110	211013	EB2129262	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587				
MW138	0874	MW138	211012	EB2129262	12/10/2021	<0.5	0.74	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	19.1	10	<0.5	<0.5	<0.5	5	9.7	51.5	145	11.4	19.8	<1.24	<0.5	<0.5	<0.5	181	8.27	326	462				
MW139	0874	MW139	211012	EB2129262	12/10/2021	<0.5	5.83	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	13.8	6	<0.5	<0.5	<0.5	6.98	10.6	45.8	90.5	8.37	13.8	<1.25	<0.5	<0.5	<0.5	230	12.8	320	444				
MW246	0874	MW246	211013	EB2129262	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.11	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.01	0.54	0.72					
MW250	0874	MW250	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	1.29	0.2	<0.02	<0.02	<0.02	0.11	0.31	1.78	6.24	0.36	1	<0.05	<0.02	<0.02	<0.02	4.38	0.18	10.6	15.8				
MW251	0874	MW251	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.36					
Sub-Management Area 3																																					
MW009	0874	MW009	211013	EB2129262	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.21	<0.06	1.4	<0.4	<0.02	<0.02	<0.02	0.47	1.03	3.38	11.8	0.67	1.55	<0.06	<0.02	<0.02	<0.02	17	1.34	28.8	38.8				
MW038	0874	MW038	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.16	0.54	2.63	0.15	0.43	<0.05	<0.02	<0.02	<0.02	3.28	0.15	5.91	7.99				
MW043	0874	MW043	211011	EB2129262	11/10/2021	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	1.93	1.2	<0.24	<0.24	<0.24	1.24	3.83	9.78	61.9	1.44	2.78	<0.61	<0.24	<0.24	<0.24	115	4.66	177	202				
MW114	0874	MW114	211013	EB2129262	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1	0.4	<0.05	<0.05	<0.05	0.39	1.43	2.26	15.4	0.49	1.36	<0.12	<0.05	<0.05	0.05	32.8	0.98	48.2	56.6				
MW125	0874	MW125	211013	EB2129262	13/10/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.67	<1.1	<0.1	<0.1	<0.1	1.26	4.09	18.6	79.8	2.64	5.95	<0.25	<0.1	<0.1	<0.1	307	2.03	387	425				
MW142	0874	MW142	211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.15	0.04	0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.39	0.51					
MW247	0874	MW247	211011	EB2129262	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.52	<1.2	<0.25	<0.25	<0.25	0.72	2.58	6.98	27.3	1	2.12	<0.62	<0.25	<0.25	<0.25	96.4	2.25	124	141				
MW248	0874	MW248	211011	EB2129262	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	0.68	<0.62	13.4	2.6	<0.25	<0.25	<0.25	3.75	14.9	34.6	145	6.1	17	<0.62	<0.25	<0.25	<0.25	180	10.3	325	428				
Remaining On-Base																																					
MW002	0874																																				

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EIFOSA	EFOSAA	EIFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	

PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection

Location ID	Sample ID	Lab Report Number	Sampled Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EIFOSA	EFOSAA	EIFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Off-Base																																					
MW205	0874 MW205 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.08	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.11	0.28		
MW206	0874 MW206 211012	EB2129262	12/10/2021	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	2.5	1	<0.1	<0.1	<0.1	<0.1	0.37	0.15	5.42	12.1	0.99	2.32	<0.24	<0.1	<0.1	<0.1	<0.1	0.15	0.13	12.2	25.1		
MW207	0874 MW207 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.23	0.36		
MW208	0874 MW208 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	0.29	0.29		
MW211	0874 MW211 211013	EB2129262	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	0.29	0.29	
MW212	0874 MW212 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
MW213	0874 MW213 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.03	0.12		
MW214	0874 MW214 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
MW215	0874 MW215 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.05		
MW216	0874 MW216 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.31		
MW217	0874 MW217 211014	EB2129262	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW218	0874 MW218 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.07	0.37	2.47	0.04	0.07	<0.05	<0.02	<0.02	<0.02	<0.02	0.45	0.02	2.92	3.59		
MW219	0874 MW219 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.08		
MW221	0874 MW221 211014	EB2129262	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	<0.2	<0.02	<0.02	<0.02	<0.02	0.07	0.12	0.68	2.36	0.12	0.42	<0.05	<0.02	<0.02	<0.02	1.39	0.09	3.75	5.71			
MW225	0874 MW225 211014	EB2129262	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.06	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.26	<0.02	0.39	0.45			
MW233	0874 MW233 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01		
MW252	0874 MW252 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03			
MW253	0874 MW253 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03		
MW263	0874 MW263 211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	<0.05	0.35	0.35		
MW264	0874 MW264 211011	EB2129262	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.22	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.72	1.18		
MW301	0874 MW301 211012	EB2129262	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.05	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.25	0.03	0.3	0.51			
MW467	0874 MW467 211014	EB2129262	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.38	0.01	0.52	0.6		
MW471	0874 MW471 211013	EB2129262	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	<0.01	0.49	0.52			

LOR is limit of reporting
µg/L is micrograms per litre
< denotes concentration is less than
NEMP is National Environmental Management Plan
Denotes first time detection above LOR
Denotes new exceedance of ecological guideline values

Property ID	Sample ID	Field ID	Sample Date	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base													
Bohle/Louisa Creek/Town Common													
0874	SW013												Location dry during October 2021 sampling event.
0874	SW014	0874 SW014 211007	7/10/2021	1.95	5788	7.16	-125.8	24.7	Low	Pale yellow	Sulfurous odour	No sheen	Creek underneath bridge, approx 100m wide, 0.2-0.5m deep, not flowing, grass/reeds growing in creek.
0874	SW016	0874 SW016 211007	7/10/2021	9.82	17654	8.21	20.6	32.1	Medium	Yellow	No odour	No sheen	Natural low lying drainage point, water pool approx 5m width, 5cm deep, no flow.
0874	SW019												Location dry during October 2021 sampling event.
0874	SW112	0874 SW112 211007	7/10/2021	7.24	2195	7.75	52.4	32	Low	Pale yellow	No odour	No sheen	Concrete drain, approx 15m wide, 1m deep, no flow, grass/reeds growing in drain.
0874	SW123	0874 SW123 211007	7/10/2021	5.59	1245	7.62	21.4	33	Low	Pale yellow	No odour	No sheen	Earthen drain, approx 5-8m width, 0.5m depth, reeds/grass growing.
0874	SW125												Location dry during October 2021 sampling event.
0874	SW126	0874 SW126 211007	7/10/2021	11.58	883	9.14	10.2	30.8	Clear	Clear	No odour	No sheen	Lake at north of OLAs, surrounded by reeds, 1-2m deep.
0874	SW131	0874 SW131 211007	7/10/2021	7.4	3618	7.11	76.5	30.8	Low	Pale yellow	No odour	No sheen	Curvert under road into pooled waterbody, approx 3m wide at culvert, 0.5m deep, not flowing, grass/reeds growing at sides.
Mundy Creek Catchment													
0874	SW001	0874 SW001 211007	7/10/2021	13.13	2018	8.82	31.4	33.4	Low	Pale yellow	No odour	No Sheen	Concrete drain, approx 5m width, 2cm water depth, no flow.
0874	SW010	0874 SW010 211007	7/10/2021	14.57	466.3	9.51	-18.6	33.7	Low	Pale yellow	No odour	No Sheen	Concrete drain, approx 2m width, approx 10cm deep, no flow.
0874	SW106												Location dry during October 2021 sampling event.
0874	SW121												Location dry during October 2021 sampling event.
0874	SW132	0874 SW132 211007	7/10/2021	11.84	1885	8.72	21.3	29.5	Low	Pale yellow	No odour	No sheen	Concrete drain, approx 5m width, 2cm water, no sediment, no flow.
Three Mile Creek													
0874	SW102	0874 SW102 211007	7/10/2021	1.63	18914	7.13	-98.6	26.4	Low	Pale yellow	No odour	Biosheen Appearance	Concrere drain, small puddle approx 15m wide less than 5cm deep, no flow.
Off-Base													
Bohle/Louisa Creek/Town Common													
0874	SW017	0874 SW017 211006	6/10/2021	2.71	4186	7.83	9.9	30.3	Clear	Pale yellow	No odour	No sheen	Concrete drain, no flow, approx 10m wide, 1m deep.
0874	SW021	0874 SW021 211006	6/10/2021	2.31	1876	6.96	-184.7	32	Low	Yellowish Brown	Sulfurous odour	No sheen	Natural drain, approx 10m wide, 10cm deep, organics growing on water surface and within drain.
0874	SW110	0874 SW110 211006	6/10/2021	3.72	1558	6.49	47.3	27.7	Low	Yellowish Brown	No odour	No sheen	Pooled waterbody, no flow, lily pads on water surface.
0874	SW111	0874 SW111 211006	6/10/2021	3.77	1912	7	38.7	25.4	Low	Yellowish Brown	Compost	No sheen	No flow.
0874	SW120	0874 SW120 211006	6/10/2021	7.36	3509	7.71	-32.8	32.2	Clear	Pale yellow	No odour	No sheen	Natural drain, approx 15 m wide, water approx 50cm deep, grass growing in drain.
0874	SW127	0874 SW127 211006	6/10/2021	4.36	1164	7.4	-29.5	27.8	Clear	Pale yellow	No odour	No sheen	Concrete drain under bridge, approx 60-70m wide, max 0.5m deep, not flowing.
0874	SW129	0874 SW129 211006	6/10/2021	4.76	42065	7.58	79.4	29.6	Low	-	No odour	No sheen	Mid-tide, flowing downstream.
0874	SW201	0874 SW201 211006	6/10/2021	4.51	35621	7.67	69.3	30.5	Clear	Pale yellow	No odour	No sheen	Slight flow, Bohle River upstream, approx 20m wide, 1m deep, high tide.
0874	SW202	0874 SW202 210928	28/09/2021										Field observation data lost for this location during data migration.
0874	SW203	0874 SW203 210928	28/09/2021	6.11	64227	7.86	113.9	27.4	Low	Light Olive Brown	No odour	No sheen	River, width 40m, depth 3.2m, low tide, no flow.
0874	SW204	0874 SW204 210928	28/09/2021	6.21	63278	7.97	97.7	25.7	Clear	Light Olive Brown	No odour	No sheen	River mouth, 3.2m deep, low tide, no flow.
0874	SW205	0874 SW205 210928	28/09/2021	4.4	16390	7.5	176.6	29.1	Low	Light Olive Brown	No odour	No sheen	Neap tide, water 1.7m deep, 25m width, 0.5 knot water flow.
0874	SW206	0874 SW206 210928	28/09/2021	5.82	54386	7.63	161.5	26.7	Low	Light Olive Brown	No odour	No sheen	Creek width 30m, depth 2.5m, 0.5 knots, neap tide.
0874	SW207	0874 SW207 210928	28/09/2021	4.52	61852	7.48	123	26.9	Low	Light Olive Brown	No odour	No sheen	Creek width 15m, depth 1.0m, low tide, no flow.
Mundy Creek Catchment													
0874	SW108	0874 SW108 211006	6/10/2021	6.88	178,290	7.7	155.1	34.3	Clear	Pale yellow	No odour	No sheen	Wetland, no flow.
0874	SW109	0874 SW109 211006	6/10/2021	6.16	60863	7.86	36.7	30.8	Low	Pale yellow	No odour	No sheen	Natural creek at mouth to ocean. Approx 15-20m across, 20-30cm deep, low tide, no flow.
0874	SW113	0874 SW113 211006	6/10/2021	10.36	9603	8.18	18.7	31	Low	Yellow	No odour	No sheen	Drain with culvert under road. Approx 10m wide, 1m deep.
0874	SW114	0874 SW114 211006	6/10/2021	8.12	52656	7.87	50.1	34.6	Low	Pale yellow	No odour	Biosheen Appearance	Natural creek, no flow, approx 10m wide, 20cm deep, mangroves.
0874	SW115	0874 SW115 211006	6/10/2021	8.43	57592	7.73	27	35.1	Low	Pale yellow	No odour	No sheen	Drain, approx 10m width, 1-2m depth.
0874	SW116	0874 SW116 211006	6/10/2021	5.72	61018	7.66	46.7	31.5	Medium	Pale yellow	No odour	Biosheen Appearance	Mangrove creek, approx 15m width, 1m deep, low tide no flow.
0874	SW117	0874 SW117 211007	7/10/2021	1.38	2128	7.23	168.3	25.9	Low	Pale yellow	No odour	No sheen	Concrete drain, reeds growing in drain, width approx 10m, depth 0.5m.
0874	SW118	0874 SW118 211007	7/10/2021	4.02	28809	7.11	186.4	27.2	Low	Pale yellow	No odour	No sheen	Natural creek, mangrove lined, approx 10m width, 0.5m deep.
0874	SW119	0874 SW119 211006	6/10/2021	9.91	2401	9.35	1.4	31.2	Low	Pale yellow	No odour	No sheen	Concrete drain, approx 10m width, very shallow (less than 5cm), no flow.
0874	SW208	0874 SW208 211006	6/10/2021	7.29	62391	7.88	31	32.2	Medium	Pale yellow	No odour	No sheen	Creek, approx 15m wide, 1m deep, low tide.
0874	SW209												Location dry during October 2021 sampling event.
Three Mile Creek													
0874	SW107												Location dry during October 2021 sampling event.
0874	SW210	0874 SW210 211006	6/10/2021	5.15	61246	7.62	55.1	29.9	Low	Olive Yellow	No odour	No sheen	Tidal creek, approx 15m wide, 1-2m deep, low tide minimal flow.

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µs/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celcius
 "-" denotes no data collected

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle/Louisa Creek/Town Common				
0874	SD013	7/10/2021	Silty SAND, dry, low to medium plasticity, soft, black, well graded fine sand component, with a trace of clay. With some organics (roots).	No odour
0874	SD014	7/10/2021	Gravelly sandy CLAY, saturated, medium to high plasticity, firm, dark grey to black, medium grained sands, medium to coarse sub-angular to angular gravel. With trace of organics and biota (roots, shells).	No odour
0874	SD016	7/10/2021	Silty CLAY, saturated, medium to high plasticity, firm, dark grey, with trace of fine to medium grained sand.	No odour
0874	SD019	7/10/2021	CLAY, moist, medium to high plasticity, soft, brown to grey with red to brown mottling, with a trace of fine grained sand. With organics (roots).	No odour
0874	SD112	7/10/2021	Sandy GRAVEL, saturated, medium to coarse, sub-angular to angular gravels, loose, black, coarse sands. With organics and biota (roots, shells).	No odour
0874	SD123	7/10/2021	Sandy CLAY, saturated, medium plasticity, firm, dark brown to dark grey, well graded fine grained sand. With organics (roots, leaves).	No odour
0874	SD125	7/10/2021	Silty CLAY, dry, medium to high plasticity, soft, dark brown. With trace of organics (roots).	No odour
0874	SD126	7/10/2021	CLAY, wet, high plasticity, firm, brown to dark grey, with a trace of coarse grained sand and fine angular gravels. Highly organic (roots, grass).	No odour
0874	SD131	7/10/2021	Silty CLAY, saturated, low to medium plasticity, firm, dark grey to black. Highly organic (roots, sticks, grass).	No odour
Mundy Creek Catchment				
0874	SD001	7/10/2021	SAND, saturated, well graded medium grained sand, soft, yellow to brown.	No odour
0874	SD010	7/10/2021	Clayey SAND, saturated, well graded, fine grained, soft, dark grey, medium plasticity clay component. With some organics (roots).	No odour
0874	SD106	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
0874	SD121	7/10/2021	Clayey SILT, moist, non-plastic, soft, dark brown. Highly organic (roots).	No odour
0874	SD132		No sediment available to collect from this location during the October 2021 sampling event.	
Three Mile Creek				
0874	SD102	7/10/2021	SILT, saturated, non-plastic, soft, dark grey to black. Highly organic (roots, leaves, decaying matter).	Strong organic/sulfurous odour
Off-Base				
Bohle/Louisa Creek/Town Common				
0874	SD017	6/10/2021	SAND, saturated, medium to coarse grained, soft, black and yellow to orange.	No odour
0874	SD021	6/10/2021	Top Layer: SAND, saturated, well graded medium grained, soft, grey. Bottom Layer: CLAY, saturated, medium plasticity, soft, grey, with trace of fine grained sand.	No odour
0874	SD110	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	No odour
0874	SD111	6/10/2021	Silty CLAY, saturated, medium plasticity, soft, black, with a trace of fine, well graded sand. Highly organic (roots, sticks, leaves).	Compost/putrified odour
0874	SD120	6/10/2021	SAND, saturated, medium to coarse grained, soft, black, with a trace of silt. With trace of organics (roots).	No odour
0874	SD127	6/10/2021	Clayey SILT, saturated, non-plastic, soft, black. Highly organic (roots, sticks, leaves).	No odour
0874	SD129	6/10/2021	CLAY, saturated, medium plasticity, soft, dark brown to black, with a trace of medium angular gravels. With trace of organics (leaves).	No odour
0874	SD201	6/10/2021	SAND, saturated, well graded, fine to medium grained, soft, black.	Brackish odour
0874	SD202	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component. Mud crab observed (not in sample), slight biosheen on water surface.	Coastal/mangrove mud odour
0874	SD203	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with inclusions of high plasticity dark grey clay.	Coastal/mangrove mud odour
0874	SD204	29/09/2021	Silty CLAY, saturated, medium plasticity, soft, dark brown.	Coastal/mangrove mud odour
0874	SD205	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, with some inclusions of grey non-uniform medium grained sands.	Coastal/mangrove mud odour
0874	SD206	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component.	Coastal/mangrove mud odour
0874	SD207	29/09/2021	Sandy silty CLAY, saturated, medium plasticity, soft, dark brown, fine sand component, some organics (mangrove roots).	Coastal/mangrove mud odour
Mundy Creek Catchment				
0874	SD108	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to grey.	Organic/sulfurous odour
0874	SD109	6/10/2021	SAND, saturated, well graded, medium grained, soft, yellow.	No odour
0874	SD113	6/10/2021	Clayey SAND, saturated, well graded, fine to medium grained, firm, black, medium plasticity clay component. With some organics (roots).	No odour
0874	SD114	6/10/2021	Silty CLAY, saturated, low plasticity, firm, dark brown to black. Highly organic (roots).	No odour
0874	SD115	6/10/2021	CLAY, saturated, medium plasticity, firm, dark brown to black, with a trace of coarse angular gravels. With some organics (roots).	No odour
0874	SD116	6/10/2021	Gravelly CLAY, saturated, medium to high plasticity, firm, dark brown to black, fine to coarse angular gravels.	No odour
0874	SD117	7/10/2021	Sandy SILT, saturated, non-plastic, soft, black, medium grained sand component. Highly organic (roots, sticks, leaves).	No odour
0874	SD118	7/10/2021	Silty CLAY, saturated, low to medium plasticity, soft, dark brown to black. With some organics (roots, leaves).	Putrified odour
0874	SD119	6/10/2021	Silty sandy GRAVEL, saturated, fine sub angular to angular gravels, soft, black, medium to coarse sands.	No odour
0874	SD208	6/10/2021	CLAY, wet to saturated, medium to high plasticity, firm, dark brown to black.	No odour
0874	SD209	11/10/2021	Silty CLAY, dry, medium plasticity, hard, dark brown. Dry salt crystals observed on surface.	No odour
Three Mile Creek				
0874	SD107	6/10/2021	Silty CLAY, dry, medium plasticity, hard, black. Dry salt crystals observed on surface.	Saline odour
0874	SD210	6/10/2021	Sandy CLAY, saturated, low to medium plasticity, soft, dark brown to black, fine grained sand component, with trace of coarse angular gravels.	Coastal/mangrove mud odour

"-" denotes that no notes were observed for this sample

Location ID	Sample Date	PFOA		PFOS		PFNA		PFDA		PFDEA		PFMEA		PFHxA		PFHxO		PFTrDA		PFTrDA		PFUnDA		PFNA		PFOS		PFOA		Sum of PFOS and PFHxO	Sum of PFAS	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L
MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546	
	29/07/2017	<0.05	0.72	<0.05	<0.05	<0.02	<0.05	0.12	0.14	<0.02	<0.05	<0.02	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	7.5	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
	15/08/2017	<0.05	3.49	0.65	<0.05	<0.02	<0.05	0.12	0.12	<0.02	<0.05	<0.02	9.5	9.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.17	776	7.24	291	370	
	30/04/2019	<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	313	1.29	35.1	80.6	
	16/10/2019	<0.05	0.16	0.11	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	6.58	3.3	0.03	0.02	<0.02	1.52	3.37	14.6	49	4.19	5.77	<0.05	<0.02	<0.02	0.06	60.4	2.76	109	152	
	27/04/2020	<0.05	0.95	<0.05	<0.05	<0.02	<0.05	0.12	0.12	<0.02	<0.05	<0.02	38.6	<16.8	<0.05	<0.05	<0.05	11.4	19.2	95.4	339	20.2	42.2	<0.12	<0.05	<0.05	0.20	394	17.6	723	968	
	7/09/2020	<1.2	<1.2	<1.2	<1.2	<3	<1.2	<3	<1.2	<3	<1.2	<3	64	28.8	<1.2	<1.2	<1.2	14.9	25.2	144	474	33.2	56.5	<3	<1.2	<1.2	<1.2	427	30.1	901	1300	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	8.6	5.6	<1	<1	<1	2.2	3.3	19.4	56	5.6	8.6	<2.5	<1	<1	<1	83.1	2.9	139	195	
	12/10/2021	<0.5	0.74	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	19.1	10	<0.5	<0.5	<0.5	9.7	61.5	145	114	19.8	<1.24	<0.5	<0.5	<0.5	181	8.27	326	462		
	15/08/2017	0.12	13.4	0.14	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	38.3	15.8	<0.05	0.08	<0.05	14	37.6	109	309	24.1	50.9	<0.12	<0.05	<0.05	0.29	778	44.7	1,090	1,440	
MW139	15/08/2017	0.24	21.8	0.46	<0.05	<0.12	<0.05	0.62	<0.12	<0.05	<0.12	40.8	16.6	<0.05	0.19	<0.05	19.6	28.8	129	298	23.1	39.4	<0.12	<0.05	<0.05	0.3	564	32.4	862	1,220		
	16/04/2018	0.16	39.2	0.76	<0.10	<0.25	<0.10	<0.25	0.78	<0.25	<0.10	<0.25	67.1	27.4	<0.10	0.53	<0.10	32.4	58.7	212	557	36.5	87.1	<0.25	<0.10	<0.10	0.38	1,660	53	2,220	2,830	
	19/12/2018	0.17	16.9	0.678	<0.020	<0.050	<0.020	<0.050	0.416	<0.050	<0.020	<0.050	52.1	27.3	0.048	0.314	<0.020	24.1	39.3	165	390	31.3	5.85	<0.020	<0.020	<0.020	0.338	836	46.3	1,220	1,600	
	30/04/2019	<0.50	27.2	0.85	<0.50	<1.25	<0.50	<1.25	0.75	<0.50	<0.50	<1.25	49	<2.5	<0.50	<0.50	<0.50	24.1	37.7	148	343	77	47	<0.50	<0.50	<0.50	<0.50	1,050	48.8	3,360	4,180	
	16/10/2019	0.12	20.7	0.52	<0.10	<0.25	<0.10	<0.25	0.55	<0.25	<0.10	<0.25	45.4	21.8	<0.10	<0.10	<0.10	22.5	30.3	150	333	27.3	45	<0.25	<0.10	<0.10	0.3	733	38.9	1,090	1,490	
	27/04/2020	<5.00	22	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<5.00	<5.00	<5.00	17.5	31	114	302	25	48.5	<12.5	<5.00	<5.00	<5.00	802	42	1,100	1,450
	7/09/2020	<5	12	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<5	<5	<5	17	24	112	225	23	35	<12.5	<5	<5	<5	498	28.5	723	1,010
	29/04/2021	<10	27	<10	<10	<25	<10	<25	<10	<25	<10	<25	53	<50	<10	<10	<10	29	64	161	407	36	47	<25	<10	<10	<10	1,520	57	1,930	2,400	
	12/10/2021	<0.5	5.83	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	13.8	6	<0.5	<0.5	<0.5	6.88	10.6	45.8	90.5	8.37	13.8	<1.25	<0.5	<0.5	0.20	230	12.8	320	444	
	MW246	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.02	<0.05	<0.05	0.3	1.12	3.13	8.69	<0.05	0.99	<0.12	<0.05	<0.05	<0.05	23.7	0.64	32.4	39.3	
17/04/2018		<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	0.75	<0.25	<0.10	<0.25	3.93	1.3	<0.10	0.49	<0.10	1.5	11.8	20.3	53.8	2.82	5.43	<0.25	<0.10	<0.10	<0.10	1.98	3.5	252	297		
17/12/2018		<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	0.32	<0.050	<0.020	<0.050	8.37	0.564	0.026	0.088	<0.020	2.16	2.68	33.7	70	5.5	7.16	<0.050	<0.020	<0.020	0.06	54.7	3.11	115	178		
10/05/2019		<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.82	<0.02	<0.05	<0.05	0.24	0.27	4.52	5.87	0.51	0.93	<0.12	<0.05	<0.05	<0.05	7.89	0.34	13.6	21.2		
15/10/2019		<0.10	0.34	<0.10	<0.25	<0.10	<0.25	0.14	<0.25	<0.10	<0.25	0.24	<0.10	<0.25	0.24	<0.10	<0.25	0.12	0.67	0.96	2.27	0.19	<0.25	<0.10	<0.10	<0.10	3.07	<0.10	5.03	6.86		
27/04/2020		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	0.02	0.04	0.46	0.64	0.07	0.11	<0.05	<0.02	<0.02	<0.02	1.03	0.04	1.67	2.49	
7/09/2020		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.14	<0.1	<0.02	<0.02	<0.02	0.04	0.06	0.6	1.04	0.1	0.11	<0.05	<0.02	<0.02	<0.02	2.02	0.07	3.06	4.18	
30/04/2021		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	0.02	0.16	0.23	0.03	0.03	<0.05	<0.02	<0.02	<0.02	0.34	0.02	0.57	0.84		
13/10/2021		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	0.11	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	0.34	0.01	0.54	0.72		
MW250		15/08/2017	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.89	<0.02	<0.05	<0.05	0.42	0.9	6.78	16	1.27	2.8	<0.12	<0.05	<0.05	<0.05	14.2	0.58	30.2	45.6		
	16/04/2018	<0.05	0.06	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.52	0.6	<0.05	<0.05	0.28	0.6	3.86	11.8	0.74	1.88	<0.12	<0.05	<0.05	<0.05	14.2	0.44	26	37			
	19/12/2018	<0.020	<0.020	<0.020	<0.050	<0.020	<0.050	0.030	<0.050	<0.020	<0.050	3.08	0.096	<0.020	<0.020	0.304	0.008	4.67	1.4	2.21	<0.050	<0.020	<0.020	<0.020	0.859	0.522	2.25	34.8				
	30/04/2019	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.22	<0.1	<0.02	<0.02	0.03	0.19	1.5	0.03	0.14	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	0.26	2.69	3.61			
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.81	0.2	<0.02	<0.02	0.08	0.14	1.11	3.83	0.23	0.57	<0.05	<0.02	<0.02	<0.02	2.44	0.12	6.27	9.53			
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.69	0.1	<0.02	<0.02	0.03	0.07	0.53	2.22	0.12	0.33	<0.05	<0.02	<0.02	<0.02	1.86	0.05	3.88	5.6			
	10/09/2020	<0.05	<0.05</																													

Units	PFOS	PFOA	PFNA	PFDA	PFUnDA	PFHxA	PFHxS	PFPeA	PFPeS	PFTrDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Location ID	Off-Base - Three Mile Creek Catchment																
Sample Date																	
SD107	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0014	<0.0002
	20/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0016	<0.0002
	6/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0043	0.0002
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0014	<0.0002
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0022
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0007
SD210	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0015	<0.0002
	4/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002
	6/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002
	22/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002

LOR is limit of reporting
mg/kg is milligrams per kilogram
"<" denotes concentration less than

Appendix C

Data Validation

Data Validation Report

Project No.:	60612487	Validation by:	[REDACTED]	Date:	17/11/2021
Client:	Department of Defence				
Site:	Royal Australian Air Force (RAAF) Base Townsville				
Matrix type:	Groundwater, surface water, sediment	Data verified by:	[REDACTED]	Date:	25/11/2021
No. of primary samples:	84 groundwater, 35 surface water, 41 sediment				
Laboratory:	ALS (Brisbane), NMI (Sydney)	Project Manager:	[REDACTED]		
Lab reference:	EB2127450, EB2128523, EB2129262, EB2129530, RN1331484, RN1332669				

Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project. The data are considered appropriate for use to meet the project objectives.
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Field QA/QC

Sampling personnel	Sampling was conducted by AECOM personnel between 28 September and 16 October 2021.
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.
Chain of Custody (COC)	COC documents completed as per AECOM procedures.
Rinsate Blank	<p>Rinsate blank samples were collected at a frequency of at least one per day of sampling (ten in total). Rinsates were collected from the decontaminated interface probe and the surface water collection cup. Concentrations were reported below the LOR for all analytes tested (see Table C4) except for detections in two rinsate samples: 0874_QC301_211006 and 0874_QC303_211011.</p> <p>The rinsate detections are likely due to incomplete decontamination of the surface water collection cup (6/10/2021) or interface probe (11/10/2021). Results for samples collected on dates when PFAS was detected in rinsate samples were within the historical range for their respective location with the exception of MW142. Concentration of PFOS in MW142 was a new historical maximum for this location however, the concentration was within the same order of magnitude as historical results. This does not affect interpretation of results for the purpose of this report.</p>
Trip Blanks	Trip blank samples were collected at a frequency of one per batch of samples submitted to ALS. Four primary sample batches with four associated trip blanks were submitted to the laboratory. All trip blanks reported concentrations below the LOR, see Table C5 .
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in ten primary samples (nine duplicates and triplicates for groundwater, four duplicates and triplicates for surface water and five duplicates and triplicates for sediment). The target frequency of 10% for field duplicates and triplicates was achieved for groundwater, surface water and sediment.

Handling and preservation	<p>Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 1.9°C and 9.6°C.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.</p>
Equipment Calibration	<p>Calibration of the water quality meter was conducted the morning of each sampling day. Records of calibration are attached in Appendix F for the following dates:</p> <ul style="list-style-type: none"> • 28/9/2021 • 6/10/2021 and 7/10/2021 • 11/10/2021 to 14/10/2021 • 16/10/2021
Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> • Laboratory Duplicates for PFAS (9.28%) was below the expected rate of 10% in EB2129262. This batch had samples analysed for PFAS. • Matrix spikes for PFAS (4.12% and 0%) were below the expected rate of 5% in EB2129262 and EB2129530. These batches had samples analysed for PFAS. The number of samples analysed in EB2129530 was insufficient to meet the required frequency of laboratory duplicates for this analysis and is therefore not considered a non-conformance. <p>These minor deficiencies in frequencies of laboratory QC samples not expected to impact data quality or interpretation.</p>
Method Blank	Method blank concentrations were not detected above the LOR for all analytes tested.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples.
Laboratory control spike recovery	<p>Laboratory Control Spikes (LCS) were within control limits for all samples, except where there was a recovery greater than the upper control limit of 129% in EB2127450 for:</p> <ul style="list-style-type: none"> • PFBA (133%) in laboratory sample QC-3929147-002. <p>This was deemed acceptable as all associated analyte results were less than the laboratory LOR.</p>
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> • PFOS in 0874_SD110_211006 and 0874_SD118_211007 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2128523. • PFOS in an anonymous sample where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2129262.

<p>Surrogate spike recovery</p>	<ul style="list-style-type: none"> PFBS, PFPeS, PFHxS, PFOS and PFHxA in 0874_MW250_211011 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2129262. PFHxS, PFOS and PFHxA in 0874_MW126_211011 where MS recovery was not determined due to background level greater than or equal to four times spike level in EB2129262. <p>This is not expected to impact data quality.</p> <p>Surrogate spike recoveries were within control limits.</p>
QA/QC Data Evaluation	
<p>Comparison of Field Observations and Laboratory Results</p>	<p>No anomalous results between field observations and analysis results were noted.</p>
<p>Data transcription</p>	<p>A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.</p>
<p>Limits of reporting</p>	<p>Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels.</p>
<p>Field duplicate RPDs</p>	<p>LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <ul style="list-style-type: none"> EP231X (PFHxA) for 0874_SW205_210928 in batch EB2127450. EP231X for multiple samples in batches EB2128523 and EB2129262.
<p>Field duplicate RPDs</p>	<p>RPDs for groundwater, surface water, and sediment are reported in Tables C1, C2, and C3 respectively. Field duplicate RPDs were reported within control limits except the following (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> 0874_SD116_211006 and 0874_QC105_211006 for PFOS (33%) <p>The difference in concentrations between the primary and duplicate samples is likely due to sample heterogeneity. This difference is not expected to impact data quality.</p>
<p>Field triplicate RPDs</p>	<p>Field triplicate RPDs were reported within control limits with the exception of the following (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> 0874_MW043_211011 and 0874_QC209_211011 for PFPeS (33%), PFHxS (38%), PFHpS (77%), PFOS (34%), PFHpA (32%) and PFOA (31%). 0874_MW110_211013 and 0874_QC214_211013 for PFBS (43%), PFPeS (50%), PFHpS (57%), PFBA (57%), PFHxA (43%), PFPeA (48%), PFHpA (41%) and PFOA (31%). 0874_MW245_211013 and 0874_QC215_211013 for PFBS (38%), PFPeS (57%), PFHxS (39%), PFHpS (87%), PFOS (48%), PFBA (39%), PFHxA (62%), PFPeA (38%), PFHpA (48%), PFOA (55%). 0874_MW009_211013 and 0874_QC216_211013 for PFPeS (34%) and PFHpA (32%). 0874_MW221_211014 and 0874_QC217_211014 for PFPeS (40%), PFHxS (33%), PFOS (50%) and PFHxA (37%). 0874_SW123_211007 and 0874_QC206_211007 for PFBS (39%), PFPeS (48%), PFHpS (61%), PFHxA (44%). 0874_SD116_211006 and 0874_QC205_211006 for PFOS (53%). 0874_SD123_211007 and 0874_QC207_211007 for PFDS (61%). <p>The non-compliant RPDs for triplicate groundwater and surface water samples are likely to be due to different extraction methods used by the laboratories. The non-compliant RPDs for triplicate sediment samples is likely due to sample heterogeneity. The minor non-compliances are not considered to affect the interpretation of the data. In general, the primary sample reported the highest concentration for each analyte.</p>

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2129262	EB2129262		RN1332669		EB2129262	EB2129262		RN1332669		EB2129262	EB2129262		RN1332669	
Field ID	0874 MW142 211011	0874 QC108 211011		0874 QC208 211011		0874 MW043 211011	0874 QC109 211011		0874 QC209 211011		0874 MW264 211011	0874 QC111 211011		0874 QC211 211011	
Sampled Date/Time	11/10/2021 8:59	11/10/2021 8:59		11/10/2021 8:59		11/10/2021 11:55	11/10/2021 11:55		11/10/2021 11:55		11/10/2021 14:20	11/10/2021 14:20		11/10/2021 14:20	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Units	LOR															
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	0.018	NC	<0.24	<0.25	NC	0.11	NC	<0.05	<0.05	NC	<0.01	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.61	<0.62	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.61	<0.62	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	0.048	NC	<0.02	<0.02	NC	<0.01	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.61	<0.62	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.61	<0.62	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	0.02	<0.02	NC	<0.01	NC	1.93	2.08	7	1.6	19	0.22	0.22	0	0.19	15
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	2.78	3.02	8	2	33	0.14	0.14	0	0.11	24
PFHxS	µg/L	0.02 : 0.01 (Interlab)	0.15	0.15	0	0.092	48	61.9	61.1	1	42	38	0.66	0.67	2	0.61	8
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	3.83	3.82	0	1.7	77	<0.02	<0.02	NC	<0.01	NC
PFOS	µg/L	0.01 : 0.02 (Interlab)	0.24	0.2	18	0.18	29	115	108	6	82	34	0.06	0.06	0	0.045	29
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.05	NC	<1.2	<1.2	NC	0.75	NC	0.1	0.1	0	0.14	33
PFHxA	µg/L	0.02 : 0.01 (Interlab)	0.06	0.06	0	0.037	47	9.78	10.2	4	8	20	<0.02	<0.02	NC	<0.01	NC
PFPeA	µg/L	0.02	0.04	0.04	0	0.023	54	1.44	1.65	14	1.3	10	<0.02	<0.02	NC	<0.02	NC
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	1.24	1.38	11	0.9	32	<0.02	<0.02	NC	<0.01	NC
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	4.66	4.55	2	3.4	31	<0.01	<0.01	NC	<0.01	NC
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	0.011	NC	<0.02	<0.02	NC	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	0.065	NC	<0.02	<0.02	NC	<0.01	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.61	<0.62	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.24	<0.25	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.24	<0.25	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2129262		EB2129262		RN1332669		EB2129262		EB2129262		RN1332669		EB2129262		EB2129262		RN1332669				
Field ID	0874	MW227 211013	0874	QC112 211013	0874	QC212 211013	0874	MW026 211013	0874	QC113 211013	0874	QC213 211013	0874	MW110 211013	0874	QC114 211013	0874	QC214 211013			
Sampled Date/Time	13/10/2021 13:26		13/10/2021 13:26		13/10/2021 13:26		13/10/2021 14:24		13/10/2021 14:24		13/10/2021 14:24		13/10/2021 9:52		13/10/2021 9:52		13/10/2021 9:52				
Sample Type	Primary		Duplicate		RPD	Triplicate		RPD	Primary		Duplicate		RPD	Primary		Duplicate		RPD	Triplicate		RPD

Chemical Name	Units	LOR																		
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	<0.01	NC			
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	2.08	1.9	9	1.5	32			
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.11	NC			
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	<0.01	NC			
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.12	<0.12	NC	<0.02	NC	<1.24	<2.5	NC	<0.02	NC			
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	<0.01	NC			
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.12	<0.12	NC	<0.05	NC	<1.24	<2.5	NC	<0.05	NC			
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.09	0.09	0	0.056	47	<0.5	<1	NC	0.082	NC			
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.12	<0.12	NC	<0.02	NC	<1.24	<2.5	NC	<0.02	NC			
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	<0.01	NC			
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.12	<0.12	NC	<0.05	NC	<1.24	<2.5	NC	<0.05	NC			
PFBS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.1	0.11	10	0.089	12	17	17.2	1	11	43			
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.12	0.13	8	0.1	18	16.6	15.8	5	10	50			
PFHxS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	1.72	1.76	2	1.7	1	168	150	11	130	26			
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.35	0.36	3	0.3	15	12.7	10.4	20	7.1	57			
PFOS	µg/L	0.01 : 0.02 (Interlab)	<0.01	<0.01	NC	<0.02	NC	16.2	16.1	1	16	1	257	230	11	190	30			
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.031	NC			
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.05	NC	<0.2	<0.2	NC	0.07	NC	15.4	16	4	8.6	57			
PFHxA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.3	0.3	0	0.27	11	59.1	54.8	8	38	43			
PFPeA	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	0.07	0.06	15	0.054	26	24.6	23.1	6	15	48			
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	0.06	0.05	18	0.041	38	5.16	5.2	1	3.4	41			
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.21	0.2	5	0.17	21	9.32	9.4	1	6.8	31			
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.049	NC			
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.01	NC			
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.16	NC			
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.12	<0.12	NC	<0.02	NC	<1.24	<2.5	NC	<0.02	NC			
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.5	<1	NC	<0.02	NC			
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.5	<1	NC	0.015	NC			

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C1: Groundwater Duplicate and Triplicate Results

Lab Report Number	EB2129262	EB2129262		RN1332669		EB2129262	EB2129262		RN1332669		EB2129262	EB2129262		RN1332669	
Field ID	0874 MW245 211013	0874 QC115 211013		0874 QC215 211013		0874 MW009 211013	0874 QC116 211013		0874 QC216 211013		0874 MW221 211014	0874 QC117 211014		0874 QC217 211014	
Sample Date/Time	13/10/2021 10:40	13/10/2021 10:40		13/10/2021 10:40		13/10/2021 15:47	13/10/2021 15:47		13/10/2021 15:47		14/10/2021 9:19	14/10/2021 9:19		14/10/2021 9:19	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Units	LOR															
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	2.48	2.07	18	1.3	62	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.48	<0.48	NC	0.025	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<1.2	<1.2	NC	<0.02	NC	<0.06	<0.06	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
EtFOSE	µg/L	0.05	<1.2	<1.2	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	0.21	0.28	29	0.16	27	<0.02	<0.02	NC	<0.01	NC
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<1.2	<1.2	NC	<0.02	NC	<0.06	<0.06	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
MeFOSE	µg/L	0.05	<1.2	<1.2	NC	<0.05	NC	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	32.2	30.6	5	22	38	1.4	1.36	3	1.1	24	0.46	0.43	7	0.36	24
PFPeS	µg/L	0.02 : 0.01 (Interlab)	50.5	48.1	5	28	57	1.55	1.58	2	1.1	34	0.42	0.44	5	0.28	40
PFHxS	µg/L	0.02 : 0.01 (Interlab)	328	323	2	220	39	11.8	11.9	1	10	17	2.36	2.39	1	1.7	33
PFHpS	µg/L	0.02 : 0.01 (Interlab)	21.8	22	1	8.6	87	1.03	1.14	10	0.82	23	0.12	0.12	0	0.057	71
PFOS	µg/L	0.01 : 0.02 (Interlab)	81.7	79.4	3	50	48	17	17	0	16	6	1.39	1.25	11	0.83	50
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFBA	µg/L	0.1 : 0.05 (Interlab)	12.2	11.1	9	8.2	39	<0.4	<0.5	NC	0.37	NC	<0.2	0.1	NC	0.11	NC
PFHxA	µg/L	0.02 : 0.01 (Interlab)	114	115	1	60	62	3.38	3.75	10	2.7	22	0.68	0.68	0	0.47	37
PFPeA	µg/L	0.02	17.6	16.8	5	12	38	0.67	0.67	0	0.51	27	0.12	0.11	9	0.087	32
PFHpA	µg/L	0.02 : 0.01 (Interlab)	21.1	20.8	1	13	48	0.47	0.48	2	0.34	32	0.07	0.07	0	0.042	50
PFOA	µg/L	0.01	33.4	32.9	2	19	55	1.34	1.34	0	1	29	0.09	0.09	0	0.067	29
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	0.11	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<1.2	<1.2	NC	<0.02	NC	<0.06	<0.06	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
PFTrDA	µg/L	0.02	<0.48	<0.48	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.48	<0.48	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	EB2127450		EB2127450		RN1331484		EB2128523		EB2128523		RN1331484		EB2128523		EB2128523		RN1331484		EB2128523		EB2128523		RN1331484			
Field ID	0874 SW202 210928	0874 QC100 210928	0874 QC200 210928	0874 QC200 210928	0874 SW129 211006	0874 QC102 211006	0874 QC202 211006	0874 SW116 211006	0874 QC104 211006	0874 QC204 211006	0874 SW123 211007	0874 QC106 211007	0874 QC206 211007	0874 SW116 211006	0874 QC104 211006	0874 QC204 211006	0874 SW123 211007	0874 QC106 211007	0874 QC206 211007	0874 SW129 211006	0874 QC102 211006	0874 QC202 211006	0874 SW116 211006	0874 QC104 211006	0874 QC204 211006	
Sampled Date/Time	28/09/2021 7:30		28/09/2021 7:30		28/09/2021 7:30		6/10/2021 11:08		6/10/2021 11:08		6/10/2021 11:08		6/10/2021 14:20		6/10/2021 14:20		6/10/2021 14:20		7/10/2021 11:36		7/10/2021 11:36		7/10/2021 11:36			
Sample Type	Primary		Duplicate		RPD	TriPLICATE		RPD	Primary		Duplicate		RPD	TriPLICATE		RPD	Primary		Duplicate		RPD	TriPLICATE		RPD	TriPLICATE	

Chemical Name	Units	EQL																									
4:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	1.13	0.96	16	0.73	43
8:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	0.07	0.07	0	0.076	8
10:2 FTS	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
EtFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
EtFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
EtFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
FOSA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.08	0.1	22	0.064	22
MeFOSA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
MeFOSAA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
MeFOSE	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
PFBS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.04	0.04	0	0.03	29	1.4	1.4	0	0.94	39	1.4	1.4	0	0.94	39
PFPeS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.04	0.04	0	0.027	39	1.44	1.37	5	0.88	48	1.44	1.37	5	0.88	48
PFHxS	µg/L	0.02 : 0.01 (Interlab)	0.02	<0.02	NC	0.017	16	<0.02	0.02	NC	0.017	NC	0.24	0.24	0	0.18	29	8.24	7.95	4	6.9	18	8.24	7.95	4	6.9	18
PFHpS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	1.16	1.14	2	0.62	61
PFOS	µg/L	0.01 : 0.02 (Interlab)	0.02	0.03	40	<0.02	NC	0.02	0.02	0	0.023	14	0.36	0.34	6	0.34	6	39.8	38.6	3	31	25	39.8	38.6	3	31	25
PFDS	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.32	<0.32	NC	<0.01	NC	<0.32	<0.32	NC	0.018	0
PFBA	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC	0.4	0.4	0	0.39	3	0.4	0.4	0	0.39	3
PFHxA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.1	0.1	0	0.066	41	3.12	2.92	7	2	44	3.12	2.92	7	2	44
PFPeA	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	0.71	0.74	4	0.65	9	0.71	0.74	4	0.65	9
PFHpA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.33	0.34	3	0.27	20	0.33	0.34	3	0.27	20
PFOA	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	<0.01	NC	<0.01	NC	0.03	0.02	40	0.023	26	0.82	0.8	2	0.61	29	0.82	0.8	2	0.61	29
PFDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.03	0.03	0	0.027	11	0.03	0.03	0	0.027	11
PFDoDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
PFNA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	0.08	0.08	0	0.063	24	0.08	0.08	0	0.063	24
PFTeDA	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
PFTrDA	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
PFUnDA	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C3: Sediment Duplicate and Triplicate Results

Lab Report Number	EB2127450		EB2127450		RN1331484		EB2128523		EB2128523		RN1331484		EB2128523		EB2128523		RN1331484										
Field ID	0874	SD202	210928	0874	QC101	210928	0874	QC201	210928	0874	SD129	211006	0874	QC103	211006	0874	QC203	211006	0874	SD116	211006	0874	QC105	211006	0874	QC205	211006
Sampled Date/Time	28/09/2021 7:40		28/09/2021 7:40		28/09/2021 7:40		6/10/2021 11:06		6/10/2021 11:06		6/10/2021 11:06		6/10/2021 14:20		6/10/2021 14:20		6/10/2021 14:20										
Sample Type	Primary		Duplicate		RPD	Triplicate		RPD	Primary		Duplicate		RPD	Triplicate		RPD	Primary		Duplicate		RPD	Triplicate					

Chemical Name	Units	EQL			RPD			RPD			RPD			RPD			RPD		
4:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.001	
6:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.001	
8:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.001	
10:2 FTS	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.002	
EtFOSA	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.002	
EtFOSAA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	
EtFOSE	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC	<0.005	
FOSA	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
MeFOSA	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.002	
MeFOSAA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	
MeFOSE	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC	<0.005	
PFBS	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFPeS	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFHxS	mg/kg	0.0002 : 0.001 (Interlab)	0.0002	0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	0.0002	0.0003	40	<0.001	NC	<0.001	
PFHpS	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFOS	mg/kg	0.0002 : 0.002 (Interlab)	0.0034	0.0033	3	0.0034	0	0.0023	0.0023	0	0.0022	4	0.0033	0.0046	33	0.0057	NC	<0.001	
PFDS	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFBA	mg/kg	0.001	<0.001	<0.001	NC	<0.001	NC	<0.001	<0.001	NC	<0.001	NC	<0.001	<0.001	NC	<0.001	NC	<0.001	
PFHxA	mg/kg	0.0002 : 0.001 (Interlab)	0.0002	0.0002	0	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFPeA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	
PFHpA	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFOA	mg/kg	0.0002 : 0.001 (Interlab)	0.0003	0.0003	0	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFDA	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFDoDA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	
PFNA	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC	<0.001	
PFTeDA	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.002	
PFTrDA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	
PFUnDA	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC	<0.002	

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C3: Sediment Duplicate and Triplicate Results

Lab Report Number	EB2128523	EB2128523		RN1331484		EB2129262	EB2129262		RN1332669		
Field ID	0874 SD123 211007	0874 QC107 211007		0874 QC207 211007		0874 SD106 211011	0874 QC110 211011		0874 QC210 211011		
Sampled Date/Time	7/10/2021 11:36	7/10/2021 11:36		7/10/2021 11:36		11/10/2021 13:35	11/10/2021 13:35		11/10/2021 13:35		
Sample Type	RPD	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Units	EQL											
4:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC
6:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC
8:2 FTS	mg/kg	0.0005 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0005	<0.0005	NC	<0.001	NC
10:2 FTS	mg/kg	0.0005 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC
EtFOSA	mg/kg	0.0005 : 0.002 (Interlab)	NC	<0.0012	<0.0012	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC
EtFOSAA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC
EtFOSE	mg/kg	0.0005 : 0.005 (Interlab)	NC	<0.0012	<0.0012	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
FOSA	mg/kg	0.0002 : 0.001 (Interlab)	NC	0.0042	0.0054	25	0.0035	18	<0.0002	<0.0002	NC	<0.001	NC
MeFOSA	mg/kg	0.0005 : 0.002 (Interlab)	NC	<0.0012	<0.0012	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC
MeFOSAA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC
MeFOSE	mg/kg	0.0005 : 0.005 (Interlab)	NC	<0.0012	<0.0012	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
PFBS	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFPeS	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFHxS	mg/kg	0.0002 : 0.001 (Interlab)	NC	0.005	0.0057	13	0.0057	13	0.0025	0.0021	17	0.0019	27
PFHpS	mg/kg	0.0002 : 0.001 (Interlab)	NC	0.001	0.0013	26	<0.001	NC	0.0003	0.0003	0	<0.001	NC
PFOS	mg/kg	0.0002 : 0.002 (Interlab)	53	0.152	0.187	21	0.13	16	0.0366	0.0333	9	0.035	4
PFDS	mg/kg	0.0002	NC	0.0049	0.0066	30	0.0026	61	<0.0002	<0.0002	NC	<0.001	NC
PFBA	mg/kg	0.001	NC	<0.002	<0.002	NC	<0.002	NC	<0.001	<0.001	NC	<0.002	NC
PFHxA	mg/kg	0.0002 : 0.001 (Interlab)	NC	0.0012	0.0015	22	0.0015	22	<0.0002	<0.0002	NC	<0.001	NC
PFPeA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC
PFHpA	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFOA	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFDA	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFDoDA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC
PFNA	mg/kg	0.0002 : 0.001 (Interlab)	NC	<0.0005	<0.0005	NC	<0.001	NC	<0.0002	<0.0002	NC	<0.001	NC
PFTeDA	mg/kg	0.0005 : 0.002 (Interlab)	NC	<0.0012	<0.0012	NC	<0.002	NC	<0.0005	<0.0005	NC	<0.002	NC
PFTrDA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC
PFUnDA	mg/kg	0.0002 : 0.002 (Interlab)	NC	<0.0005	<0.0005	NC	<0.002	NC	<0.0002	<0.0002	NC	<0.002	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentrations are below the EQL these are not calculated (NC)
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary



Imagine it.
Delivered.

Table C5: Trip Blank Analytical Results

Project Name: PFAS OMP RAAF Base Townsville
Sampling Event Factual Report - October 2021

Lab Report Number	EB2127450	EB2128523	EB2129262	EB2129530
Field ID	0874_QC500_210928	0874_QC501_211006	0874_QC502_211011	0874_QC503_211016
Sampled Date/Time	28/09/2021 6:30	6/10/2021 8:06	11/10/2021 15:54	16/10/2021 11:28
Sample Type	Trip_B	Trip_B	Trip_B	Trip_B

Chemical Name	Units	EQL				
4:2 FTS	µg/L	0.01	<0.05	<0.05	<0.05	<0.05
6:2 FTS	µg/L	0.01	<0.05	<0.05	<0.05	<0.05
8:2 FTS	µg/L	0.01	<0.05	<0.05	<0.05	<0.05
10:2 FTS	µg/L	0.01	<0.05	<0.05	<0.05	<0.05
EtFOSA	µg/L	0.02	<0.05	<0.05	<0.05	<0.05
EtFOSAA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
EtFOSE	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
FOSA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
MeFOSA	µg/L	0.02	<0.05	<0.05	<0.05	<0.05
MeFOSAA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
MeFOSE	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
PFBS	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFPeS	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFHxS	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFHpS	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
PFDS	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFBA	µg/L	0.05	<0.1	<0.1	<0.1	<0.1
PFHxA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFPeA	µg/L	0.02	<0.02	<0.02	<0.02	<0.02
PFHpA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFOA	µg/L	0.01	<0.01	<0.01	<0.01	<0.01
PFDA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFDoDA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFNA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02
PFTeDA	µg/L	0.02	<0.05	<0.05	<0.05	<0.05
PFTTrDA	µg/L	0.02	<0.02	<0.02	<0.02	<0.02
PFUnDA	µg/L	0.01	<0.02	<0.02	<0.02	<0.02

Appendix D

Chain of Custody Records

**CHAIN OF CUSTODY**

ALS COC#: 28111 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW202_210928		28/09/2021 07:30 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
002	0874_SW203_210928		28/09/2021 09:58 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
003	0874_SW204_210928		28/09/2021 10:05 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
004	0874_SW205_210928		28/09/2021 08:30 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab QC
005	0874_SW206_210928		28/09/2021 09:00 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab QC
006	0874_SW207_210928		28/09/2021 09:20 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_SD202_210928		28/09/2021 07:40 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
008	0874_SD203_210928		28/09/2021 09:55 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
009	0874_SD204_210928		28/09/2021 10:10 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS **ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SD205_210928		28/09/2021 08:35 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
011	0874_SD206_210928		28/09/2021 09:05 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
012	0874_SD207_210928		28/09/2021 09:25 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_QC100_210928		28/09/2021 07:30 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
014	0874_QC101_210928		28/09/2021 07:40 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
015	0874_QC300_210928		28/09/2021 11:40 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
016	0874_QC500_210928		28/09/2021 06:30 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW202_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW203_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW204_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW205_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW206_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW207_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SD202_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
008	0874_SD203_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
009	0874_SD204_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
010	0874_SD205_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
011	0874_SD206_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
012	0874_SD207_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_QC100_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_QC101_210928	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
015	0874_QC300_210928	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 28111 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016

0874_QC500_210926

waters WATER

Water

- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 28111

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW202_210928	HDPE (no PTFE)	20 mL	00350019151717	Grey	No	
001	0874_SW202_210928	HDPE (no PTFE)	20 mL	00350019151786	Grey	No	
002	0874_SW203_210928	HDPE (no PTFE)	20 mL	00352101015898	Grey	No	
002	0874_SW203_210928	HDPE (no PTFE)	20 mL	00352101015895	Grey	No	
003	0874_SW204_210928	HDPE (no PTFE)	20 mL	00350019151950	Grey	No	
003	0874_SW204_210928	HDPE (no PTFE)	20 mL	00350019151915	Grey	No	
004	0874_SW205_210928	HDPE (no PTFE)	20 mL	00350019151811	Grey	No	
004	0874_SW205_210928	HDPE (no PTFE)	20 mL	00350019151752	Grey	No	
004	0874_SW205_210928	HDPE (no PTFE)	20 mL	00350019151841	Grey	No	
004	0874_SW205_210928	HDPE (no PTFE)	20 mL	00350019151851	Grey	No	
005	0874_SW206_210928	HDPE (no PTFE)	20 mL	00350019151708	Grey	No	
005	0874_SW206_210928	HDPE (no PTFE)	20 mL	00350019151746	Grey	No	
005	0874_SW206_210928	HDPE (no PTFE)	20 mL	00350019151765	Grey	No	
005	0874_SW206_210928	HDPE (no PTFE)	20 mL	00350019151929	Grey	No	
006	0874_SW207_210928	HDPE (no PTFE)	20 mL	00350019151857	Grey	No	
006	0874_SW207_210928	HDPE (no PTFE)	20 mL	00350019151689	Grey	No	
007	0874_SD202_210928	HDPE Soil Jar	200 mL	00620719023194	Grey	No	
008	0874_SD203_210928	HDPE Soil Jar	200 mL	00620719023184	Grey	No	
009	0874_SD204_210928	HDPE Soil Jar	200 mL	00620719070670	Grey	No	
010	0874_SD205_210928	HDPE Soil Jar	200 mL	00620719023213	Grey	No	
011	0874_SD206_210928	HDPE Soil Jar	200 mL	00620719023276	Grey	No	
012	0874_SD207_210928	HDPE Soil Jar	200 mL	00620719023179	Grey	No	
013	0874_QC100_210928	HDPE (no PTFE)	20 mL	00350019151850	Grey	No	
013	0874_QC100_210928	HDPE (no PTFE)	20 mL	00350019151872	Grey	No	
014	0874_QC101_210928	HDPE Soil Jar	200 mL	00620719023190	Grey	No	
015	0874_QC300_210928	HDPE (no PTFE)	20 mL	00350019151935	Grey	No	



CHAIN OF CUSTODY

COC#: 28111

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

015	0874_QC300_210928	HDPE (no PTFE)	20 mL	00350019151907	Grey	No	
016	0874_QC500_210928	HDPE (no PTFE)	20 mL	00352010056726	Grey	No	
016	0874_QC500_210928	HDPE (no PTFE)	20 mL	00352010056766	Grey	No	

Total Bottle Count: ALS: 29, Non ALS: 0



Environmental Division
Brisbane
Work Order Reference
EB2128523



Telephone : - 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PPASOMP Client: AECOM

Project Manager:

Phone:

ALS Compass COC Reference: 28376 # Samples: 75

Sampler:

Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

Custody:

Date / Time: <u>8/10/21 1700</u>	Date / Time: <u>8/10/21 1700.</u>	Date / Time:	Date / Time: <u>12-10-21 08:45</u>
-------------------------------------	--------------------------------------	--------------	---------------------------------------

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW300_211006		06/10/2021 08:04 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra lab volume
002	0874_QC501_211006		06/10/2021 08:06 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
003	0874_SD111_211006		06/10/2021 08:51 AM	Water	ALS: 1 Non ALS: 0	No	Partial 1/4			
004	0874_SW111_211006		06/10/2021 08:53 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0874_SD110_211006		06/10/2021 09:10 AM	Water	ALS: 1 Non ALS: 0	No	Partial 1/4			
006	0874_SW110_211006		06/10/2021 09:11 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_SD107_211006		06/10/2021 09:36 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
008	0874_SD108_211006		06/10/2021 09:49 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
009	0874_SW108_211006		06/10/2021 09:50 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SD201_211006		06/10/2021 10:35 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
011	0874_SW201_211006		06/10/2021 10:36 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_SD129_211006		06/10/2021 11:06 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_QC103_211006		06/10/2021 11:07 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
014	0874_SW129_211006		06/10/2021 11:08 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
015	0874_QC102_211006		06/10/2021 11:09 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
016	0874_SD017_211006		06/10/2021 11:35 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
017	0874_SW017_211006		06/10/2021 11:36 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		
018	0874_SD021_211006		06/10/2021 11:53 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW021_211006		06/10/2021 11:54 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
020	0874_SD120_211006		06/10/2021 12:13 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
021	0874_SW120_211006		06/10/2021 12:14 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
022	0874_SD127_211006		06/10/2021 12:30 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
023	0874_SW127_211006		06/10/2021 12:30 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra lab volume
024	0874_SD210_211006		06/10/2021 01:08 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
025	0874_SW210_211006		06/10/2021 01:08 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
026	0874_SW109_211006		06/10/2021 01:37 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
027	0874_SD109_211006		06/10/2021 01:38 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

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RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW208_211006		06/10/2021 01:56 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
029	0874_SD208_211006		06/10/2021 01:58 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
030	0874_SW116_211006		06/10/2021 02:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
031	0874_QC104_211006		06/10/2021 02:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
032	0874_SD116_211006		06/10/2021 02:20 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
033	0874_QC105_211006		06/10/2021 02:21 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
034	0874_SW114_211006		06/10/2021 02:41 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra lab volume
035	0874_SD114_211006		06/10/2021 02:42 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
036	0874_SW115_211006		06/10/2021 02:57 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
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 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SW118_211007		07/10/2021 08:33 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
047	0874_SW112_211007		07/10/2021 09:14 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra lab volume
048	0874_SD112_211007		07/10/2021 09:15 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
049	0874_MW234_211007		07/10/2021 09:28 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
050	0874_MW255_211007		07/10/2021 09:38 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
051	0874_SD014_211007		07/10/2021 10:02 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
052	0874_SW014_211007		07/10/2021 10:03 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
053	0874_SD102_211007		07/10/2021 10:32 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
054	0874_SW102_211007		07/10/2021 10:33 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_SW010_211007		07/10/2021 11:53 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
065	0874_SD001_211007		07/10/2021 12:26 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
066	0874_SW001_211007		07/10/2021 12:27 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
067	0874_SW132_211007		07/10/2021 12:37 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
068	0874_SD019_211007		07/10/2021 01:09 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
069	0874_SD131_211007		07/10/2021 01:39 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
070	0874_SW131_211007		07/10/2021 01:39 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra lab volume
071	0874_SW126_211007		07/10/2021 02:32 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
072	0874_SD126_211007		07/10/2021 02:32 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW300_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC501_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SD111_211006	Sediments SEDIMENT	Water	- EP231X (solids) PFAS - Full Suite (28 analytes)
004	0874_SW111_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SD110_211006	Sediments SEDIMENT	Water	- EP231X (solids) PFAS - Full Suite (28 analytes)
006	0874_SW110_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SD107_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
008	0874_SD108_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
009	0874_SW108_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SD201_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
011	0874_SW201_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SD129_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_QC103_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
014	0874_SW129_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_QC102_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

016	0874_SD017_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
017	0874_SW017_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SD021_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
019	0874_SW021_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_SD120_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
021	0874_SW120_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_SD127_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
023	0874_SW127_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SD210_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
025	0874_SW210_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_SW109_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SD109_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
028	0874_SW208_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SD208_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
030	0874_SW116_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_QC104_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

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 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO
 EMAIL INVOICES TO

032	0874_SD116_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
033	0874_QC105_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
034	0874_SW114_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_SD114_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
036	0874_SW115_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_SD115_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
038	0874_QC301_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_SW113_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_SD113_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
041	0874_SW119_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_SD119_211006	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
043	0874_SD117_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
044	0874_SW117_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_SD118_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
046	0874_SW118_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_SW112_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED] CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 PRIMARY SAMPLER: [REDACTED] QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

048	0874_SD112_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
049	0874_MW234_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW255_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_SD014_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
052	0874_SW014_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_SD102_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
054	0874_SW102_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_SD013_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
056	0874_SD016_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
057	0874_SW016_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_SD125_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
059	0874_SD123_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
060	0874_SW123_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_QC106_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_QC107_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
063	0874_SD010_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
 1

EMAIL REPORTS TO

EMAIL INVOICES TO

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

064	0874_SW010_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_SD001_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
066	0874_SW001_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_SW132_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_SD019_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
069	0874_SD131_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
070	0874_SW131_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_SW126_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
072	0874_SD126_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
073	0874_QC302_211007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_SD121_211007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
075	0874_MW222_211006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED] CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 PRIMARY SAMPLER: [REDACTED] QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW300_211006	HDPE (no PTFE)	20 mL	00350019151767	Grey	No	
001	0874_MW300_211006	HDPE (no PTFE)	20 mL	00350019151866	Grey	No	
001	0874_MW300_211006	HDPE (no PTFE)	20 mL	00350019151693	Grey	No	
001	0874_MW300_211006	HDPE (no PTFE)	20 mL	00350019151831	Grey	No	
002	0874_QC501_211006	HDPE (no PTFE)	20 mL	00352010056618	Grey	No	
002	0874_QC501_211006	HDPE (no PTFE)	20 mL	00352010056782	Grey	No	
003	0874_SD111_211006	HDPE Soil Jar	200 mL	00620719023176	Grey	No	
004	0874_SW111_211006	HDPE (no PTFE)	20 mL	00350019151849	Grey	No	
004	0874_SW111_211006	HDPE (no PTFE)	20 mL	00350019151727	Grey	No	
005	0874_SD110_211006	HDPE Soil Jar	200 mL	00620719023199	Grey	No	
006	0874_SW110_211006	HDPE (no PTFE)	20 mL	00350019151969	Grey	No	
006	0874_SW110_211006	HDPE (no PTFE)	20 mL	00350019151782	Grey	No	
007	0874_SD107_211006	HDPE Soil Jar	200 mL	00620719023205	Grey	No	
008	0874_SD108_211006	HDPE Soil Jar	200 mL	00620719023216	Grey	No	
009	0874_SW108_211006	HDPE (no PTFE)	20 mL	00350019151830	Grey	No	
009	0874_SW108_211006	HDPE (no PTFE)	20 mL	00350019151871	Grey	No	
010	0874_SD201_211006	HDPE Soil Jar	200 mL	00620719070642	Grey	No	
011	0874_SW201_211006	HDPE (no PTFE)	20 mL	00350019151712	Grey	No	
011	0874_SW201_211006	HDPE (no PTFE)	20 mL	00350019151904	Grey	No	
012	0874_SD129_211006	HDPE Soil Jar	200 mL	00620719023159	Grey	No	
013	0874_QC103_211006	HDPE Soil Jar	200 mL	00620719023245	Grey	No	
014	0874_SW129_211006	HDPE (no PTFE)	20 mL	00350019151743	Grey	No	
014	0874_SW129_211006	HDPE (no PTFE)	20 mL	00350019151821	Grey	No	
015	0874_QC102_211006	HDPE (no PTFE)	20 mL	00350019151828	Grey	No	
015	0874_QC102_211006	HDPE (no PTFE)	20 mL	00350019151700	Grey	No	
016	0874_SD017_211006	HDPE Soil Jar	200 mL	00620719023167	Grey	No	

RELINQUISHED BY:
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 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO
 EMAIL INVOICES TO

031	0874_QC104_211006	HDPE (no PTFE)	20 mL	00350019151756	Grey	No	
032	0874_SD116_211006	HDPE Soil Jar	200 mL	00620719023257	Grey	No	
033	0874_QC105_211006	HDPE Soil Jar	200 mL	00620719070778	Grey	No	
034	0874_SW114_211006	HDPE (no PTFE)	20 mL	00350019151879	Grey	No	
034	0874_SW114_211006	HDPE (no PTFE)	20 mL	00350019151917	Grey	No	
034	0874_SW114_211006	HDPE (no PTFE)	20 mL	00350019151908	Grey	No	
034	0874_SW114_211006	HDPE (no PTFE)	20 mL	00350019151926	Grey	No	
035	0874_SD114_211006	HDPE Soil Jar	200 mL	00620719070707	Grey	No	
036	0874_SW115_211006	HDPE (no PTFE)	20 mL	00350019109450	Grey	No	
036	0874_SW115_211006	HDPE (no PTFE)	20 mL	00350019109385	Grey	No	
037	0874_SD115_211006	HDPE Soil Jar	200 mL	00620719070662	Grey	No	
038	0874_QC301_211006	HDPE (no PTFE)	20 mL	00352101016168	Grey	No	
038	0874_QC301_211006	HDPE (no PTFE)	20 mL	00352101015883	Grey	No	
039	0874_SW113_211006	HDPE (no PTFE)	20 mL	00352101015944	Grey	No	
039	0874_SW113_211006	HDPE (no PTFE)	20 mL	00352101015979	Grey	No	
040	0874_SD113_211006	HDPE Soil Jar	200 mL	00620719070706	Grey	No	
041	0874_SW119_211006	HDPE (no PTFE)	20 mL	00350019151961	Grey	No	
041	0874_SW119_211006	HDPE (no PTFE)	20 mL	00352101016151	Grey	No	
041	0874_SW119_211006	HDPE (no PTFE)	20 mL	00350019151772	Grey	No	
041	0874_SW119_211006	HDPE (no PTFE)	20 mL	00352101016002	Grey	No	
042	0874_SD119_211006	HDPE Soil Jar	200 mL	00620719070686	Grey	No	
043	0874_SD117_211007	HDPE Soil Jar	200 mL	00620719070661	Grey	No	
044	0874_SW117_211007	HDPE (no PTFE)	20 mL	00350019151802	Grey	No	
044	0874_SW117_211007	HDPE (no PTFE)	20 mL	00350019151680	Grey	No	
045	0874_SD118_211007	HDPE Soil Jar	200 mL	00620719070783	Grey	No	
046	0874_SW118_211007	HDPE (no PTFE)	20 mL	00350019151942	Grey	No	
046	0874_SW118_211007	HDPE (no PTFE)	20 mL	00350019151737	Grey	No	

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO
 EMAIL INVOICES TO

047	0874_SW112_211007	HDPE (no PTFE)	20 mL	00350019151740	Grey	No	
047	0874_SW112_211007	HDPE (no PTFE)	20 mL	00350019151920	Grey	No	
047	0874_SW112_211007	HDPE (no PTFE)	20 mL	00350019151711	Grey	No	
047	0874_SW112_211007	HDPE (no PTFE)	20 mL	00350019151959	Grey	No	
048	0874_SD112_211007	HDPE Soil Jar	200 mL	00620719070705	Grey	No	
049	0874_MW234_211007	HDPE (no PTFE)	20 mL	00352101016014	Grey	No	
049	0874_MW234_211007	HDPE (no PTFE)	20 mL	00352101015975	Grey	No	
050	0874_MW255_211007	HDPE (no PTFE)	20 mL	00352101015901	Grey	No	
050	0874_MW255_211007	HDPE (no PTFE)	20 mL	00352101016049	Grey	No	
051	0874_SD014_211007	HDPE Soil Jar	200 mL	00620719070737	Grey	No	
052	0874_SW014_211007	HDPE (no PTFE)	20 mL	00352101016026	Grey	No	
052	0874_SW014_211007	HDPE (no PTFE)	20 mL	00352101015921	Grey	No	
053	0874_SD102_211007	HDPE Soil Jar	200 mL	00620719070643	Grey	No	
054	0874_SW102_211007	HDPE (no PTFE)	20 mL	00352101016157	Grey	No	
054	0874_SW102_211007	HDPE (no PTFE)	20 mL	00352101015896	Grey	No	
055	0874_SD013_211007	HDPE Soil Jar	200 mL	00620719070647	Grey	No	
056	0874_SD016_211007	HDPE Soil Jar	200 mL	00620719023207	Grey	No	
057	0874_SW016_211007	HDPE (no PTFE)	20 mL	00352101016174	Grey	No	
057	0874_SW016_211007	HDPE (no PTFE)	20 mL	00352101016090	Grey	No	
058	0874_SD125_211007	HDPE Soil Jar	200 mL	00620719070696	Grey	No	
059	0874_SD123_211007	HDPE Soil Jar	200 mL	00620719070663	Grey	No	
060	0874_SW123_211007	HDPE (no PTFE)	20 mL	00352101015994	Grey	No	
060	0874_SW123_211007	HDPE (no PTFE)	20 mL	00352101016057	Grey	No	
061	0874_QC106_211007	HDPE (no PTFE)	20 mL	00352101016133	Grey	No	
061	0874_QC106_211007	HDPE (no PTFE)	20 mL	00352101016164	Grey	No	
062	0874_QC107_211007	HDPE Soil Jar	200 mL	00620719070679	Grey	No	
063	0874_SD010_211007	HDPE Soil Jar	200 mL	00620719070693	Grey	No	

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

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DATE TIME:

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:
 / ET2021AECOMAU000
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EMAIL REPORTS TO
 EMAIL INVOICES TO

064	0874_SW010_211007	HDPE (no PTFE)	20 mL	00352101015884	Grey	No	
064	0874_SW010_211007	HDPE (no PTFE)	20 mL	00352101016129	Grey	No	
065	0874_SD001_211007	HDPE Soil Jar	200 mL	00620719070701	Grey	No	
066	0874_SW001_211007	HDPE (no PTFE)	20 mL	00352101016098	Grey	No	
066	0874_SW001_211007	HDPE (no PTFE)	20 mL	00352101016103	Grey	No	
067	0874_SW132_211007	HDPE (no PTFE)	20 mL	00352101016065	Grey	No	
067	0874_SW132_211007	HDPE (no PTFE)	20 mL	00352101016154	Grey	No	
068	0874_SD019_211007	HDPE Soil Jar	200 mL	00620719070740	Grey	No	
069	0874_SD131_211007	HDPE Soil Jar	200 mL	00620719070683	Grey	No	
070	0874_SW131_211007	HDPE (no PTFE)	20 mL	00352101016169	Grey	No	
070	0874_SW131_211007	HDPE (no PTFE)	20 mL	00352101015924	Grey	No	
070	0874_SW131_211007	HDPE (no PTFE)	20 mL	00352101016020	Grey	No	
070	0874_SW131_211007	HDPE (no PTFE)	20 mL	00352101016134	Grey	No	
071	0874_SW126_211007	HDPE (no PTFE)	20 mL	00352101016165	Grey	No	
071	0874_SW126_211007	HDPE (no PTFE)	20 mL	00352101015980	Grey	No	
072	0874_SD126_211007	HDPE Soil Jar	200 mL	00620719070699	Grey	No	
073	0874_QC302_211007	HDPE (no PTFE)	20 mL	00352101016125	Grey	No	
073	0874_QC302_211007	HDPE (no PTFE)	20 mL	00352101015980	Grey	No	
074	0874_SD121_211007	HDPE Soil Jar	200 mL	00620719070650	Grey	No	
075	0874_MW222_211006	HDPE (no PTFE)	20 mL	00352101015920	Grey	No	
075	0874_MW222_211006	HDPE (no PTFE)	20 mL	00352101016140	Grey	No	
075	0874_MW222_211006	HDPE (no PTFE)	20 mL	00352101016171	Grey	No	
075	0874_MW222_211006	HDPE (no PTFE)	20 mL	00352101016063	Grey	No	

Total Bottle Count: ALS: 130, Non ALS: 0



Environmental Division
Brisbane
Work Order Reference
EB2129262



Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA50MP Client: AECOM

Project Manager: _____
Phone: _____

ALS Compass COC Reference: 285796 # Samples: 98

Sampler: _____
Phone: _____

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:

Custody:

Date / Time: <u>14/10/21</u> <u>1500</u>	Date / Time: <u>15:00</u> <u>14/10/21</u>	Date / Time:	Date / Time: <u>15/10/21</u> <u>@ 8:50</u>
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RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW013_211011		11/10/2021 07:51 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		Potentially high conc
002	0874_MW129_211011		11/10/2021 08:04 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
003	0874_MW118_211011		11/10/2021 08:18 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
004	0874_MW140_211011		11/10/2021 08:32 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
005	0874_MW142_211011		11/10/2021 08:59 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
006	0874_QC108_211011		11/10/2021 09:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
007	0874_MW251_211011		11/10/2021 09:18 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
008	0874_MW250_211011		11/10/2021 09:32 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
009	0874_MW116_211011		11/10/2021 10:02 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
1

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW126_211011		11/10/2021 10:16 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc. Potential high conc
011	0874_MW034_211011		11/10/2021 10:39 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
012	0874_MW033_211011		11/10/2021 10:52 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
013	0874_MW247_211011		11/10/2021 11:26 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
014	0874_MW248_211011		11/10/2021 11:41 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
015	0874_MW043_211011		11/10/2021 11:55 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
016	0874_QC109_211011		11/10/2021 11:56 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
017	0874_MW038_211011		11/10/2021 12:24 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
018	0874_SD106_211011		11/10/2021 01:35 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

**CHAIN OF CUSTODY**

COC#: 28576

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_QC110_211011		11/10/2021 01:36 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
020	0874_SD209_211011		11/10/2021 01:50 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
021	0874_MW264_211011		11/10/2021 02:20 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
022	0874_QC111_211011		11/10/2021 02:21 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
023	0874_MW263_211011		11/10/2021 02:41 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
024	0874_MW120_211011		11/10/2021 03:37 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
025	0874_MW232_211011		11/10/2021 03:45 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
026	0874_QC502_211011		11/10/2021 03:54 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
027	0874_MW090_211011		11/10/2021 04:21 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		



CHAIN OF CUSTODY

COC#: 28576

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

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RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW046_211011		11/10/2021 04:32 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc. High conc
029	0874_MW081_211011		11/10/2021 04:41 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
030	0874_QC303_211011		11/10/2021 04:47 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
031	0874_MW139_211012		12/10/2021 08:22 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		High conc. Extra vol lab qc
032	0874_MW138_211012		12/10/2021 08:34 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
033	0874_MW015_211012		12/10/2021 09:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
034	0874_MW016_211012		12/10/2021 09:11 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		High conc. Extra vol lab qc
035	0874_MW021_211012		12/10/2021 09:24 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
036	0874_MW136_211012		12/10/2021 10:14 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc

RELINQUISHED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_MW265_211012		12/10/2021 10:26 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
038	0874_MW242_211012		12/10/2021 10:41 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
039	0874_MW241_211012		12/10/2021 10:55 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
040	0874_MW004_211012		12/10/2021 11:07 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
041	0874_MW122_211012		12/10/2021 11:20 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
042	0874_MW002_211012		12/10/2021 11:33 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
043	0874_MW135_211012		12/10/2021 11:54 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
044	0874_MW056_211012		12/10/2021 12:06 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
045	0874_MW057_211012		12/10/2021 12:22 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_QC304_211012		12/10/2021 12:26 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
047	0874_MW207_211012		12/10/2021 09:30 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
048	0874_QC305_211012		12/10/2021 04:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
049	0874_MW213_211012		12/10/2021 01:35 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
050	0874_MW215_211012		12/10/2021 02:50 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
051	0874_MW208_211012		12/10/2021 10:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
052	0874_MW216_211012		12/10/2021 03:25 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
053	0874_MW205_211012		12/10/2021 08:30 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
054	0874_MW212_211012		12/10/2021 12:40 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_MW233_211012		12/10/2021 10:30 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
056	0874_MW206_211012		12/10/2021 09:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
057	0874_MW214_211012		12/10/2021 02:05 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
058	0874_MW252_211012		12/10/2021 10:55 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
059	0874_MW253_211012		12/10/2021 11:20 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
060	0874_MW301_211012		12/10/2021 11:45 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
061	0874_MW218_211012		12/10/2021 04:00 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
062	0874_MW219_211012		12/10/2021 04:20 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
063	0874_MW110_211013		13/10/2021 09:52 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_QC114_211013		13/10/2021 09:53 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
065	0874_MW109_211013		13/10/2021 10:01 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
066	0874_MW055_211013		13/10/2021 10:12 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
067	0874_MW054_211013		13/10/2021 10:20 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
068	0874_QC115_211013		13/10/2021 10:46 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
069	0874_MW245_211013		13/10/2021 10:40 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
070	0874_MW246_211013		13/10/2021 11:08 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
071	0874_QC112_211013		13/10/2021 01:24 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
072	0874_MW227_211013		13/10/2021 01:26 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0874_MW226_211013		13/10/2021 01:37 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
074	0874_MW229_211013		13/10/2021 01:49 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
075	0874_MW223_211013		13/10/2021 02:11 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
076	0874_MW026_211013		13/10/2021 02:24 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
077	0874_QC113_211013		13/10/2021 02:25 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
078	0874_MW063_211013		13/10/2021 02:38 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
079	0874_MW224_211013		13/10/2021 02:49 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
080	0874_MW061_211013		13/10/2021 03:01 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
081	0874_MW125_211013		13/10/2021 03:10 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc. High conc

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
1

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0874_MW114_211013		13/10/2021 03:17 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
083	0874_MW112_211013		13/10/2021 03:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
084	0874_MW009_211013		13/10/2021 03:47 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
085	0874_QC116_211013		13/10/2021 03:47 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
086	0874_QC306_211013		13/10/2021 03:54 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
087	0874_QC307_211013		13/10/2021 03:54 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
088	0874_MW211_211013		13/10/2021 10:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
089	0874_MW471_211013		13/10/2021 10:20 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
090	0874_MW217_211014		14/10/2021 08:58 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0874_MW221_211014		14/10/2021 09:19 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
092	0874_QC117_211014		14/10/2021 09:20 AM	Water	ALS: 2 Non ALS: 0	No	-				
093	0874_MW225_211014		14/10/2021 09:42 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
094	0874_MW005_211014		14/10/2021 10:02 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
095	0874_MW243_211014		14/10/2021 10:23 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
096	0874_MW467_211014		14/10/2021 11:05 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
097	0874_QC308_211014		14/10/2021 11:17 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
098	0874_MW470_211014		14/10/2021 02:21 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW013_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW129_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW118_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW140_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW142_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_QC108_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW251_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW250_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW116_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW126_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW034_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW033_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW247_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW248_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW043_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 28576 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

016	0874_QC109_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW038_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SD106_211011	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
019	0874_QC110_211011	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
020	0874_SD209_211011	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
021	0874_MW264_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC111_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_MW263_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_MW120_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_MW232_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_QC502_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_MW090_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW046_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW081_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_QC303_211011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW139_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 28576 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

032	0874_MW138_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_MW015_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_MW016_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_MW021_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_MW136_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_MW265_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_MW242_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_MW241_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW004_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_MW122_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_MW002_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_MW135_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_MW056_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_MW057_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_QC304_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_MW207_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

048	0874_QC305_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_MW213_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW215_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_MW208_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_MW216_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW205_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_MW212_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_MW233_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_MW206_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_MW214_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_MW252_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_MW253_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_MW301_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_MW218_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_MW219_211012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_MW110_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 28576 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

064	0874_QC114_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_MW109_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_MW055_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW054_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_QC115_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_MW245_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
070	0874_MW246_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_QC112_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
072	0874_MW227_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
073	0874_MW226_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_MW229_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
075	0874_MW223_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
076	0874_MW026_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
077	0874_QC113_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
078	0874_MW063_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
079	0874_MW224_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 28576

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

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RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

080	0874_MW061_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
081	0874_MW125_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
082	0874_MW114_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
083	0874_MW112_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
084	0874_MW009_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
085	0874_QC116_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
086	0874_QC306_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
087	0874_QC307_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
088	0874_MW211_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
089	0874_MW471_211013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
090	0874_MW217_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
091	0874_MW221_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
093	0874_MW225_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
094	0874_MW005_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
095	0874_MW243_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
096	0874_MW467_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

097	0874_QC308_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
098	0874_MW470_211014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW013_211011	HDPE (no PTFE)	20 mL	00352101015945	Grey	No	
001	0874_MW013_211011	HDPE (no PTFE)	20 mL	00352101016045	Grey	No	
002	0874_MW129_211011	HDPE (no PTFE)	20 mL	00352101016158	Grey	No	
002	0874_MW129_211011	HDPE (no PTFE)	20 mL	00352101016003	Grey	No	
002	0874_MW129_211011	HDPE (no PTFE)	20 mL	00352101016160	Grey	No	
002	0874_MW129_211011	HDPE (no PTFE)	20 mL	00352101016022	Grey	No	
003	0874_MW118_211011	HDPE (no PTFE)	20 mL	00352101016051	Grey	No	
003	0874_MW118_211011	HDPE (no PTFE)	20 mL	00352101015982	Grey	No	
004	0874_MW140_211011	HDPE (no PTFE)	20 mL	00350019151799	Grey	No	
004	0874_MW140_211011	HDPE (no PTFE)	20 mL	00350019151843	Grey	No	
005	0874_MW142_211011	HDPE (no PTFE)	20 mL	00352101015999	Grey	No	
005	0874_MW142_211011	HDPE (no PTFE)	20 mL	00352101016131	Grey	No	
006	0874_QC108_211011	HDPE (no PTFE)	20 mL	00352101016000	Grey	No	
006	0874_QC108_211011	HDPE (no PTFE)	20 mL	00352101016073	Grey	No	
007	0874_MW251_211011	HDPE (no PTFE)	20 mL	00352101016052	Grey	No	
007	0874_MW251_211011	HDPE (no PTFE)	20 mL	00352101015907	Grey	No	
008	0874_MW250_211011	HDPE (no PTFE)	20 mL	00352101016144	Grey	No	
008	0874_MW250_211011	HDPE (no PTFE)	20 mL	00352101016115	Grey	No	
008	0874_MW250_211011	HDPE (no PTFE)	20 mL	00352101016039	Grey	No	
008	0874_MW250_211011	HDPE (no PTFE)	20 mL	00352101015911	Grey	No	
009	0874_MW116_211011	HDPE (no PTFE)	20 mL	00352101016019	Grey	No	
009	0874_MW116_211011	HDPE (no PTFE)	20 mL	00352101016004	Grey	No	
010	0874_MW126_211011	HDPE (no PTFE)	20 mL	00352101016147	Grey	No	
010	0874_MW126_211011	HDPE (no PTFE)	20 mL	00352101016102	Grey	No	
010	0874_MW126_211011	HDPE (no PTFE)	20 mL	00352101015969	Grey	No	
010	0874_MW126_211011	HDPE (no PTFE)	20 mL	00352101016145	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info: ■

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Other comments:

011	0874_MW034_211011	HDPE (no PTFE)	20 mL	00352101016066	Grey	No	
011	0874_MW034_211011	HDPE (no PTFE)	20 mL	00352101015888	Grey	No	
012	0874_MW033_211011	HDPE (no PTFE)	20 mL	00352101016033	Grey	No	
012	0874_MW033_211011	HDPE (no PTFE)	20 mL	00352101016046	Grey	No	
013	0874_MW247_211011	HDPE (no PTFE)	20 mL	00352101015929	Grey	No	
013	0874_MW247_211011	HDPE (no PTFE)	20 mL	00352101016006	Grey	No	
014	0874_MW248_211011	HDPE (no PTFE)	20 mL	00352101016148	Grey	No	
014	0874_MW248_211011	HDPE (no PTFE)	20 mL	00352101015916	Grey	No	
015	0874_MW043_211011	HDPE (no PTFE)	20 mL	00352101016113	Grey	No	
015	0874_MW043_211011	HDPE (no PTFE)	20 mL	00352101015984	Grey	No	
016	0874_QC109_211011	HDPE (no PTFE)	20 mL	00352101016069	Grey	No	
016	0874_QC109_211011	HDPE (no PTFE)	20 mL	00352101016152	Grey	No	
017	0874_MW038_211011	HDPE (no PTFE)	20 mL	00352101016110	Grey	No	
017	0874_MW038_211011	HDPE (no PTFE)	20 mL	00352101015879	Grey	No	
018	0874_SD106_211011	HDPE Soil Jar	200 mL	00620719070685	Grey	No	
019	0874_QC110_211011	HDPE Soil Jar	200 mL	00620719070716	Grey	No	
020	0874_SD209_211011	HDPE Soil Jar	200 mL	00620719070648	Grey	No	
021	0874_MW264_211011	HDPE (no PTFE)	20 mL	00352101016094	Grey	No	
021	0874_MW264_211011	HDPE (no PTFE)	20 mL	00352101015913	Grey	No	
022	0874_QC111_211011	HDPE (no PTFE)	20 mL	00352101015956	Grey	No	
022	0874_QC111_211011	HDPE (no PTFE)	20 mL	00352101016074	Grey	No	
023	0874_MW263_211011	HDPE (no PTFE)	20 mL	00352101016097	Grey	No	
023	0874_MW263_211011	HDPE (no PTFE)	20 mL	00352101015889	Grey	No	
024	0874_MW120_211011	HDPE (no PTFE)	20 mL	00352101016029	Grey	No	
024	0874_MW120_211011	HDPE (no PTFE)	20 mL	00352101016177	Grey	No	
024	0874_MW120_211011	HDPE (no PTFE)	20 mL	00352101015941	Grey	No	
024	0874_MW120_211011	HDPE (no PTFE)	20 mL	00352101016017	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

025	0874_MW232_211011	HDPE (no PTFE)	20 mL	00352101015946	Grey	No	
025	0874_MW232_211011	HDPE (no PTFE)	20 mL	00352101016064	Grey	No	
026	0874_QC502_211011	HDPE (no PTFE)	20 mL	00352010034483	Grey	No	
026	0874_QC502_211011	HDPE (no PTFE)	20 mL	00352010034500	Grey	No	
027	0874_MW090_211011	HDPE (no PTFE)	20 mL	00352101016048	Grey	No	
027	0874_MW090_211011	HDPE (no PTFE)	20 mL	00352101015957	Grey	No	
028	0874_MW046_211011	HDPE (no PTFE)	20 mL	00352101016101	Grey	No	
028	0874_MW046_211011	HDPE (no PTFE)	20 mL	00352101016027	Grey	No	
028	0874_MW046_211011	HDPE (no PTFE)	20 mL	00352101016089	Grey	No	
028	0874_MW046_211011	HDPE (no PTFE)	20 mL	00352101016023	Grey	No	
029	0874_MW081_211011	HDPE (no PTFE)	20 mL	00352101016126	Grey	No	
029	0874_MW081_211011	HDPE (no PTFE)	20 mL	00352101015967	Grey	No	
030	0874_QC303_211011	HDPE (no PTFE)	20 mL	00352101015968	Grey	No	
030	0874_QC303_211011	HDPE (no PTFE)	20 mL	00352101016092	Grey	No	
031	0874_MW139_211012	HDPE (no PTFE)	20 mL	00352010034752	Grey	No	
031	0874_MW139_211012	HDPE (no PTFE)	20 mL	00352010055276	Grey	No	
031	0874_MW139_211012	HDPE (no PTFE)	20 mL	00352010034751	Grey	No	
031	0874_MW139_211012	HDPE (no PTFE)	20 mL	00352010034680	Grey	No	
032	0874_MW138_211012	HDPE (no PTFE)	20 mL	00352010017717	Grey	No	
032	0874_MW138_211012	HDPE (no PTFE)	20 mL	00352010017854	Grey	No	
033	0874_MW015_211012	HDPE (no PTFE)	20 mL	00352101016143	Grey	No	
033	0874_MW015_211012	HDPE (no PTFE)	20 mL	00352010017840	Grey	No	
034	0874_MW016_211012	HDPE (no PTFE)	20 mL	00352010017786	Grey	No	
034	0874_MW016_211012	HDPE (no PTFE)	20 mL	00352101016099	Grey	No	
034	0874_MW016_211012	HDPE (no PTFE)	20 mL	00352101016080	Grey	No	
034	0874_MW016_211012	HDPE (no PTFE)	20 mL	00352101016042	Grey	No	
035	0874_MW021_211012	HDPE (no PTFE)	20 mL	00352101015936	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

035	0874_MW021_211012	HDPE (no PTFE)	20 mL	00352101015942	Grey	No	
036	0874_MW136_211012	HDPE (no PTFE)	20 mL	00352010034754	Grey	No	
036	0874_MW136_211012	HDPE (no PTFE)	20 mL	00352010034535	Grey	No	
036	0874_MW136_211012	HDPE (no PTFE)	20 mL	00352101016076	Grey	No	
036	0874_MW136_211012	HDPE (no PTFE)	20 mL	00352101015899	Grey	No	
037	0874_MW265_211012	HDPE (no PTFE)	20 mL	00352101016173	Grey	No	
037	0874_MW265_211012	HDPE (no PTFE)	20 mL	00352101015973	Grey	No	
038	0874_MW242_211012	HDPE (no PTFE)	20 mL	00352101016116	Grey	No	
038	0874_MW242_211012	HDPE (no PTFE)	20 mL	00352101016128	Grey	No	
039	0874_MW241_211012	HDPE (no PTFE)	20 mL	00352101015908	Grey	No	
039	0874_MW241_211012	HDPE (no PTFE)	20 mL	00352101016031	Grey	No	
040	0874_MW004_211012	HDPE (no PTFE)	20 mL	00352101016044	Grey	No	
040	0874_MW004_211012	HDPE (no PTFE)	20 mL	00352101015904	Grey	No	
040	0874_MW004_211012	HDPE (no PTFE)	20 mL	00352101016106	Grey	No	
040	0874_MW004_211012	HDPE (no PTFE)	20 mL	00352101015897	Grey	No	
041	0874_MW122_211012	HDPE (no PTFE)	20 mL	00352101016050	Grey	No	
041	0874_MW122_211012	HDPE (no PTFE)	20 mL	00352101015965	Grey	No	
042	0874_MW002_211012	HDPE (no PTFE)	20 mL	00352101016139	Grey	No	
042	0874_MW002_211012	HDPE (no PTFE)	20 mL	00352101016005	Grey	No	
043	0874_MW135_211012	HDPE (no PTFE)	20 mL	00352101015998	Grey	No	
043	0874_MW135_211012	HDPE (no PTFE)	20 mL	00352101016082	Grey	No	
044	0874_MW056_211012	HDPE (no PTFE)	20 mL	00352101015947	Grey	No	
044	0874_MW056_211012	HDPE (no PTFE)	20 mL	00352101016070	Grey	No	
045	0874_MW057_211012	HDPE (no PTFE)	20 mL	00352101016146	Grey	No	
045	0874_MW057_211012	HDPE (no PTFE)	20 mL	00352101016034	Grey	No	
046	0874_QC304_211012	HDPE (no PTFE)	20 mL	00352101016130	Grey	No	
046	0874_QC304_211012	HDPE (no PTFE)	20 mL	00352101015996	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

047	0874_MW207_211012	HDPE (no PTFE)	20 mL	00352101015926	Grey	No	
047	0874_MW207_211012	HDPE (no PTFE)	20 mL	00352101016075	Grey	No	
048	0874_QC305_211012	HDPE (no PTFE)	20 mL	00352101015961	Grey	No	
048	0874_QC305_211012	HDPE (no PTFE)	20 mL	00352101015912	Grey	No	
049	0874_MW213_211012	HDPE (no PTFE)	20 mL	00352101015951	Grey	No	
049	0874_MW213_211012	HDPE (no PTFE)	20 mL	00352101016118	Grey	No	
050	0874_MW215_211012	HDPE (no PTFE)	20 mL	00352101016091	Grey	No	
050	0874_MW215_211012	HDPE (no PTFE)	20 mL	00352101015918	Grey	No	
051	0874_MW208_211012	HDPE (no PTFE)	20 mL	00352101016030	Grey	No	
051	0874_MW208_211012	HDPE (no PTFE)	20 mL	00352101015930	Grey	No	
052	0874_MW216_211012	HDPE (no PTFE)	20 mL	00352101016136	Grey	No	
052	0874_MW216_211012	HDPE (no PTFE)	20 mL	00352101015988	Grey	No	
053	0874_MW205_211012	HDPE (no PTFE)	20 mL	00352101015881	Grey	No	
053	0874_MW205_211012	HDPE (no PTFE)	20 mL	00352101016021	Grey	No	
054	0874_MW212_211012	HDPE (no PTFE)	20 mL	00352101015964	Grey	No	
054	0874_MW212_211012	HDPE (no PTFE)	20 mL	00352101015914	Grey	No	
055	0874_MW233_211012	HDPE (no PTFE)	20 mL	00352101016067	Grey	No	
055	0874_MW233_211012	HDPE (no PTFE)	20 mL	00352101016166	Grey	No	
056	0874_MW206_211012	HDPE (no PTFE)	20 mL	00352101016161	Grey	No	
056	0874_MW206_211012	HDPE (no PTFE)	20 mL	00352101015972	Grey	No	
057	0874_MW214_211012	HDPE (no PTFE)	20 mL	00352101016025	Grey	No	
057	0874_MW214_211012	HDPE (no PTFE)	20 mL	00352101015978	Grey	No	
058	0874_MW252_211012	HDPE (no PTFE)	20 mL	00352101015993	Grey	No	
058	0874_MW252_211012	HDPE (no PTFE)	20 mL	00352101016078	Grey	No	
059	0874_MW253_211012	HDPE (no PTFE)	20 mL	00352101016111	Grey	No	
059	0874_MW253_211012	HDPE (no PTFE)	20 mL	00352101016043	Grey	No	
060	0874_MW301_211012	HDPE (no PTFE)	20 mL	00352101016141	Grey	No	

**CHAIN OF CUSTODY**

COC#: 28576

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

060	0874_MW301_211012	HDPE (no PTFE)	20 mL	00352101015991	Grey	No	
061	0874_MW218_211012	HDPE (no PTFE)	20 mL	00352101016087	Grey	No	
061	0874_MW218_211012	HDPE (no PTFE)	20 mL	00352101015910	Grey	No	
061	0874_MW218_211012	HDPE (no PTFE)	20 mL	00352101015977	Grey	No	
061	0874_MW218_211012	HDPE (no PTFE)	20 mL	00352101015938	Grey	No	
062	0874_MW219_211012	HDPE (no PTFE)	20 mL	00352101016176	Grey	No	
062	0874_MW219_211012	HDPE (no PTFE)	20 mL	00352101016095	Grey	No	
062	0874_MW219_211012	HDPE (no PTFE)	20 mL	00352101016013	Grey	No	
062	0874_MW219_211012	HDPE (no PTFE)	20 mL	00352101016175	Grey	No	
063	0874_MW110_211013	HDPE (no PTFE)	20 mL	00352101016123	Grey	No	
063	0874_MW110_211013	HDPE (no PTFE)	20 mL	00352101015932	Grey	No	
064	0874_QC114_211013	HDPE (no PTFE)	20 mL	00352101015902	Grey	No	
064	0874_QC114_211013	HDPE (no PTFE)	20 mL	00352101016036	Grey	No	
065	0874_MW109_211013	HDPE (no PTFE)	20 mL	00352101015948	Grey	No	
065	0874_MW109_211013	HDPE (no PTFE)	20 mL	00352101016056	Grey	No	
066	0874_MW055_211013	HDPE (no PTFE)	20 mL	00352101015987	Grey	No	
066	0874_MW055_211013	HDPE (no PTFE)	20 mL	00352101016142	Grey	No	
067	0874_MW054_211013	HDPE (no PTFE)	20 mL	00352101016107	Grey	No	
067	0874_MW054_211013	HDPE (no PTFE)	20 mL	00352101016010	Grey	No	
068	0874_QC115_211013	HDPE (no PTFE)	20 mL	00352101016138	Grey	No	
068	0874_QC115_211013	HDPE (no PTFE)	20 mL	00352101015934	Grey	No	
069	0874_MW245_211013	HDPE (no PTFE)	20 mL	00352101015989	Grey	No	
069	0874_MW245_211013	HDPE (no PTFE)	20 mL	00352101015955	Grey	No	
070	0874_MW246_211013	HDPE (no PTFE)	20 mL	00352101015997	Grey	No	
070	0874_MW246_211013	HDPE (no PTFE)	20 mL	00352101015882	Grey	No	
071	0874_QC112_211013	HDPE (no PTFE)	20 mL	00352101015943	Grey	No	
071	0874_QC112_211013	HDPE (no PTFE)	20 mL	00352101015885	Grey	No	

**CHAIN OF CUSTODY**

COC#: 28576 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

072	0874_MW227_211013	HDPE (no PTFE)	20 mL	00352101016150	Grey	No	
072	0874_MW227_211013	HDPE (no PTFE)	20 mL	00352101016088	Grey	No	
073	0874_MW226_211013	HDPE (no PTFE)	20 mL	00352101015891	Grey	No	
073	0874_MW226_211013	HDPE (no PTFE)	20 mL	00352101016081	Grey	No	
074	0874_MW229_211013	HDPE (no PTFE)	20 mL	00352101015887	Grey	No	
074	0874_MW229_211013	HDPE (no PTFE)	20 mL	00352101016028	Grey	No	
075	0874_MW223_211013	HDPE (no PTFE)	20 mL	00352101016114	Grey	No	
075	0874_MW223_211013	HDPE (no PTFE)	20 mL	00352101016149	Grey	No	
075	0874_MW223_211013	HDPE (no PTFE)	20 mL	00352101016153	Grey	No	
075	0874_MW223_211013	HDPE (no PTFE)	20 mL	00352101015952	Grey	No	
076	0874_MW026_211013	HDPE (no PTFE)	20 mL	00352101016058	Grey	No	
076	0874_MW026_211013	HDPE (no PTFE)	20 mL	00352101015923	Grey	No	
077	0874_QC113_211013	HDPE (no PTFE)	20 mL	00352101016037	Grey	No	
077	0874_QC113_211013	HDPE (no PTFE)	20 mL	00352101016009	Grey	No	
078	0874_MW063_211013	HDPE (no PTFE)	20 mL	00352101015925	Grey	No	
078	0874_MW063_211013	HDPE (no PTFE)	20 mL	00352101016061	Grey	No	
078	0874_MW063_211013	HDPE (no PTFE)	20 mL	00352101015931	Grey	No	
078	0874_MW063_211013	HDPE (no PTFE)	20 mL	00352101015900	Grey	No	
079	0874_MW224_211013	HDPE (no PTFE)	20 mL	00352101015974	Grey	No	
079	0874_MW224_211013	HDPE (no PTFE)	20 mL	00352101016007	Grey	No	
079	0874_MW224_211013	HDPE (no PTFE)	20 mL	00352101015935	Grey	No	
079	0874_MW224_211013	HDPE (no PTFE)	20 mL	00352101016127	Grey	No	
080	0874_MW061_211013	HDPE (no PTFE)	20 mL	00352101015894	Grey	No	
080	0874_MW061_211013	HDPE (no PTFE)	20 mL	00352101015927	Grey	No	
081	0874_MW125_211013	HDPE (no PTFE)	20 mL	00352101016011	Grey	No	
081	0874_MW125_211013	HDPE (no PTFE)	20 mL	00352101015878	Grey	No	
081	0874_MW125_211013	HDPE (no PTFE)	20 mL	00352101015906	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

081	0874_MW125_211013	HDPE (no PTFE)	20 mL	00352101016040	Grey	No	
082	0874_MW114_211013	HDPE (no PTFE)	20 mL	00352101016156	Grey	No	
082	0874_MW114_211013	HDPE (no PTFE)	20 mL	00352101016059	Grey	No	
083	0874_MW112_211013	HDPE (no PTFE)	20 mL	00352101015909	Grey	No	
083	0874_MW112_211013	HDPE (no PTFE)	20 mL	00352101016001	Grey	No	
084	0874_MW009_211013	HDPE (no PTFE)	20 mL	00352101016108	Grey	No	
084	0874_MW009_211013	HDPE (no PTFE)	20 mL	00352101016159	Grey	No	
085	0874_QC116_211013	HDPE (no PTFE)	20 mL	00352101016024	Grey	No	
085	0874_QC116_211013	HDPE (no PTFE)	20 mL	00352101016132	Grey	No	
086	0874_QC306_211013	HDPE (no PTFE)	20 mL	00352101015949	Grey	No	
086	0874_QC306_211013	HDPE (no PTFE)	20 mL	00352101016119	Grey	No	
087	0874_QC307_211013	HDPE (no PTFE)	20 mL	00352101016172	Grey	No	
087	0874_QC307_211013	HDPE (no PTFE)	20 mL	00352101016105	Grey	No	
088	0874_MW211_211013	HDPE (no PTFE)	20 mL	00352101015893	Grey	No	
088	0874_MW211_211013	HDPE (no PTFE)	20 mL	00352101016012	Grey	No	
089	0874_MW471_211013	HDPE (no PTFE)	20 mL	00352101016079	Grey	No	
089	0874_MW471_211013	HDPE (no PTFE)	20 mL	00352101015939	Grey	No	
090	0874_MW217_211014	HDPE (no PTFE)	20 mL	00352101016121	Grey	No	
090	0874_MW217_211014	HDPE (no PTFE)	20 mL	00352101016047	Grey	No	
091	0874_MW221_211014	HDPE (no PTFE)	20 mL	00352101016084	Grey	No	
091	0874_MW221_211014	HDPE (no PTFE)	20 mL	00352101016163	Grey	No	
092	0874_QC117_211014	HDPE (no PTFE)	20 mL	00352101015995	Grey	No	
092	0874_QC117_211014	HDPE (no PTFE)	20 mL	00352101015958	Grey	No	
093	0874_MW225_211014	HDPE (no PTFE)	20 mL	00352101016038	Grey	No	
093	0874_MW225_211014	HDPE (no PTFE)	20 mL	00352101015970	Grey	No	
094	0874_MW005_211014	HDPE (no PTFE)	20 mL	00352101016093	Grey	No	
094	0874_MW005_211014	HDPE (no PTFE)	20 mL	00352101015922	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

095	0874_MW243_211014	HDPE (no PTFE)	20 mL	00352101016008	Grey	No	
095	0874_MW243_211014	HDPE (no PTFE)	20 mL	00352101016100	Grey	No	
096	0874_MW467_211014	HDPE (no PTFE)	20 mL	00352101016053	Grey	No	
096	0874_MW467_211014	HDPE (no PTFE)	20 mL	00352101015971	Grey	No	
097	0874_QC308_211014	HDPE (no PTFE)	20 mL	00352101016162	Grey	No	
097	0874_QC308_211014	HDPE (no PTFE)	20 mL	00352101016085	Grey	No	
098	0874_MW470_211014	HDPE (no PTFE)	20 mL	00352101016055	Grey	No	
098	0874_MW470_211014	HDPE (no PTFE)	20 mL	00352101015928	Grey	No	

Total Bottle Count: ALS: 223, Non ALS: 0



ALS Compass
SAMPLING *Intelligence*



Environmental Division
Brisbane
Work Order Reference
EB2129530



Telephone: +61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD - 0874 PFASOMP Client: AECOM

Project Manager:
Phone:

ALS Compass COC Reference: 28849 # Samples: 3

Sampler:
Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

ALS Use Only

Custody seal intact?	YES	NO	N/A
Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
Random sample temperature on receipt?		°C	

Custody:

Relinquished by:	Received by:	Relinquished by:	Received by:
[Redacted]	[Redacted]	[Redacted]	[Redacted]
Date / Time: <u>18/10/21 1710</u>	Date / Time: <u>18/10/21 1710</u>	Date / Time: <u>18/10/21 1710</u>	Date / Time: <u>20/10/21 8:30am</u>



CHAIN OF CUSTODY

COC#: 28849 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_QC503_211016		16/10/2021 11:28 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_MW244_211016		16/10/2021 12:59 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Extra vol lab qc
003	0874_QC309_211016		16/10/2021 01:00 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 28849

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_QC503_211016	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW244_211016	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_QC309_211016	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 28849

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_QC503_211016	HDPE (no PTFE)	20 mL	00352010056614	Grey	No	
001	0874_QC503_211016	HDPE (no PTFE)	20 mL	00352010056720	Grey	No	
002	0874_MW244_211016	HDPE (no PTFE)	20 mL	00352101016167	Grey	No	
002	0874_MW244_211016	HDPE (no PTFE)	20 mL	00352101015963	Grey	No	
002	0874_MW244_211016	HDPE (no PTFE)	20 mL	00352101015915	Grey	No	
002	0874_MW244_211016	HDPE (no PTFE)	20 mL	00352101016062	Grey	No	
003	0874_QC309_211016	HDPE (no PTFE)	20 mL	00352101016032	Grey	No	
003	0874_QC309_211016	HDPE (no PTFE)	20 mL	00352101015990	Grey	No	

Total Bottle Count: ALS: 8, Non ALS: 0

AEC006/211020

27/10/

AECOM

Q4AN(EV)-007-FM1

ANZ
FQM - Generic Chain of Custody Form

CONSULTANT: AECOM	ADDRESS/OFFICE: TOWNSVILLE	SAMPLER: [REDACTED]	Destination Laboratory: NMI SYDNEY
PROJECT MANAGER (PM): [REDACTED]	SITE: QLD-0874	MOBILE: [REDACTED]	PHONE: [REDACTED]
PROJECT NUMBER & TASK CODE: 0874-QLD-0874-PFASOMP	P.O. NO.: 60612487-2.1	EMAIL REPORT TO: [REDACTED]	
RESULTS REQUIRED (Date): 5 DAY STANDARD TAT	QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)	

FOR LABORATORY USE ONLY:	COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:	PERC - WATER STANDARD LOR PFAS - SOIL STANDARD LOR 18 ANALYTES	HOLD
COOLER SEAL (circle appropriate)			
Intact: Yes No N/A			
SAMPLE TEMPERATURE			
CHILLED: Yes No			

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION			PERC - WATER STANDARD LOR	PFAS - SOIL STANDARD LOR	ANALYTES	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles					
	0874-QC208-211011	W	11.10.21	0950	1xP	1	X				
	0874-QC209-211011	W	11.10.21	1150	1xP	1	X				
	0874-QC210-211011	S	11.10.21	1330	1xJar	1		X			
	0874-QC211-211011	W	11.10.21	1415	1xP	1	X				
	0874-QC212-211013	W	13.10.21	1320	4xP	4	X				
	0874-QC213-211013	W	13.10.21	1400	↓	4	X				
	0874-QC214-211013	W	13.10.21	0945		4	X				
	0874-QC215-211013	W	13.10.21	1040		4	X				
	0874-QC216-211013	W	13.10.21	1545		4	X				
	0874-QC217-211014	W	14.10.21	0915		4	X				

RECEIVED
20 OCT 2021

ISSUED BY: [REDACTED]	RECEIVED BY:	RECEIVED BY:	METHOD OF SHIPMENT:
Name: [REDACTED]	Name:	Name:	Con' Note No.:
Date: 18/10/21	Date:	Date:	Transport Co.:
Time: 1430	Time:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved, AP - Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
 F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solts; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

Appendix E

Analytical Laboratory Reports



CERTIFICATE OF ANALYSIS

Work Order : EB2127450
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28111
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 16
No. of samples analysed : 16

Page : 1 of 11
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 29-Sep-2021 08:20
Date Analysis Commenced : 29-Sep-2021
Issue Date : 05-Oct-2021 12:03



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and Senior Organic Chemist - PFAS.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: The LOR of PFHxA for sample "0874_SW205_210928" has been raised due to sample matrix interferences.
- EP231X PFAS: High LCS recovery deemed acceptable as all associated analyte results are less than LOR
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_210928	0874_SD203_210928	0874_SD204_210928	0874_SD205_210928	0874_SD206_210928
Sampling date / time				28-Sep-2021 07:40	28-Sep-2021 09:55	28-Sep-2021 10:10	28-Sep-2021 08:35	28-Sep-2021 09:05	
Compound	CAS Number	LOR	Unit	EB2127450-007	EB2127450-008	EB2127450-009	EB2127450-010	EB2127450-011	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	36.0	32.1	41.8	31.8	37.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0034	0.0018	0.0027	0.0016	0.0029	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_210928	0874_SD203_210928	0874_SD204_210928	0874_SD205_210928	0874_SD206_210928
Sampling date / time					28-Sep-2021 07:40	28-Sep-2021 09:55	28-Sep-2021 10:10	28-Sep-2021 08:35	28-Sep-2021 09:05
Compound	CAS Number	LOR	Unit		EB2127450-007	EB2127450-008	EB2127450-009	EB2127450-010	EB2127450-011
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0041	0.0018	0.0027	0.0016	0.0029	0.0029
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0036	0.0018	0.0027	0.0016	0.0029	0.0029
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0041	0.0018	0.0027	0.0016	0.0029	0.0029
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	88.0	86.0	103	102	89.5	89.5
13C8-PFOA	----	0.0002	%	98.5	99.5	93.5	101	99.5	99.5



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD207_210928	0874_QC101_210928	----	----	----
		Sampling date / time		28-Sep-2021 09:25	28-Sep-2021 07:40	----	----	----
Compound	CAS Number	LOR	Unit	EB2127450-012	EB2127450-014	-----	-----	-----
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	45.6	36.9	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	<0.0002	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0049	0.0033	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0002	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0002	0.0003	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	----	----	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD207_210928	0874_QC101_210928	----	----	----
Sampling date / time				28-Sep-2021 09:25	28-Sep-2021 07:40	----	----	----	
Compound	CAS Number	LOR	Unit	EB2127450-012	EB2127450-014	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0054	0.0038	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0052	0.0033	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0054	0.0038	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	97.0	96.5	----	----	----	
13C8-PFOA	----	0.0002	%	91.0	100	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW202_210928	0874_SW203_210928	0874_SW204_210928	0874_SW205_210928	0874_SW206_210928
Sampling date / time				28-Sep-2021 07:30	28-Sep-2021 09:58	28-Sep-2021 10:05	28-Sep-2021 08:30	28-Sep-2021 09:00	
Compound	CAS Number	LOR	Unit	EB2127450-001	EB2127450-002	EB2127450-003	EB2127450-004	EB2127450-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.02	<0.02	<0.02	0.06	0.05	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	<0.01	0.06	0.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW202_210928	0874_SW203_210928	0874_SW204_210928	0874_SW205_210928	0874_SW206_210928
Sampling date / time					28-Sep-2021 07:30	28-Sep-2021 09:58	28-Sep-2021 10:05	28-Sep-2021 08:30	28-Sep-2021 09:00
Compound	CAS Number	LOR	Unit		EB2127450-001	EB2127450-002	EB2127450-003	EB2127450-004	EB2127450-005
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	0.02	<0.01	0.14	0.12	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.02	<0.01	0.12	0.10	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.02	<0.01	0.14	0.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	115	107	110	110	107	
13C8-PFOA	----	0.02	%	103	102	102	95.5	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW207_210928	0874_QC100_210928	0874_QC300_210928	0874_QC500_210928	----
				Sampling date / time	28-Sep-2021 09:20	28-Sep-2021 07:30	28-Sep-2021 11:40	28-Sep-2021 06:30	----
Compound	CAS Number	LOR	Unit	EB2127450-006	EB2127450-013	EB2127450-015	EB2127450-016	-----	
				Result	Result	Result	Result	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	<0.02	<0.02	<0.02	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	0.03	<0.01	<0.01	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW207_210928	0874_QC100_210928	0874_QC300_210928	0874_QC500_210928	----
Sampling date / time				28-Sep-2021 09:20	28-Sep-2021 07:30	28-Sep-2021 11:40	28-Sep-2021 06:30	----	----
Compound	CAS Number	LOR	Unit	EB2127450-006	EB2127450-013	EB2127450-015	EB2127450-016	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.08	0.03	<0.01	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.03	<0.01	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.08	0.03	<0.01	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	102	104	112	----	----
13C8-PFOA	----	0.02	%	104	108	106	104	----	----



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2127450	Page	: 1 of 6
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 29-Sep-2021
Site	: QLD_0874	Issue Date	: 05-Oct-2021
Sampler	: [REDACTED]	No. of samples received	: 16
Order number	: 60612487_2.1	No. of samples analysed	: 16

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Matrix Spike outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231B: Perfluoroalkyl Carboxylic Acids	QC-3929147-002	----	Perfluorobutanoic acid (PFBA)	375-22-4	133 %	73.0-129%	Recovery greater than upper control limit

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	----	----	----	29-Sep-2021	12-Oct-2021	✔
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	01-Oct-2021	27-Mar-2022	✔	01-Oct-2021	10-Nov-2021	✔
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	01-Oct-2021	27-Mar-2022	✔	01-Oct-2021	10-Nov-2021	✔
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	01-Oct-2021	27-Mar-2022	✔	01-Oct-2021	10-Nov-2021	✔



Matrix: **SOIL** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	01-Oct-2021	27-Mar-2022	✓	01-Oct-2021	10-Nov-2021	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD202_210928, 0874_SD204_210928, 0874_SD206_210928, 0874_QC101_210928	0874_SD203_210928, 0874_SD205_210928, 0874_SD207_210928,	28-Sep-2021	01-Oct-2021	27-Mar-2022	✓	01-Oct-2021	10-Nov-2021	✓

Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW202_210928, 0874_SW204_210928, 0874_SW206_210928, 0874_QC100_210928, 0874_QC500_210928	0874_SW203_210928, 0874_SW205_210928, 0874_SW207_210928, 0874_QC300_210928,	28-Sep-2021	30-Sep-2021	27-Mar-2022	✓	01-Oct-2021	27-Mar-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW202_210928, 0874_SW204_210928, 0874_SW206_210928, 0874_QC100_210928, 0874_QC500_210928	0874_SW203_210928, 0874_SW205_210928, 0874_SW207_210928, 0874_QC300_210928,	28-Sep-2021	30-Sep-2021	27-Mar-2022	✓	01-Oct-2021	27-Mar-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW202_210928, 0874_SW204_210928, 0874_SW206_210928, 0874_QC100_210928, 0874_QC500_210928	0874_SW203_210928, 0874_SW205_210928, 0874_SW207_210928, 0874_QC300_210928,	28-Sep-2021	30-Sep-2021	27-Mar-2022	✓	01-Oct-2021	27-Mar-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	17	11.76	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: WATER

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	9	11.11	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



QUALITY CONTROL REPORT

Work Order : EB2127450
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFSOMP
Order number : 60612487_2.1
C-O-C number : 28111
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 16
No. of samples analysed : 16

Page : 1 of 10
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 29-Sep-2021
Date Analysis Commenced : 29-Sep-2021
Issue Date : 05-Oct-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and Senior Organic Chemist - PFAS.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3929419)									
EB2127450-007	0874_SD202_210928	EA055: Moisture Content	----	0.1	%	36.0	35.8	0.6	0% - 20%
EB2127562-011	Anonymous	EA055: Moisture Content	----	0.1	%	20.5	22.6	9.9	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3929413)									
EB2127450-007	0874_SD202_210928	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0034	0.0036	6.5	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EB2127562-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3929413)									
EB2127450-007	0874_SD202_210928	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3929413) - continued									
EB2127450-007	0874_SD202_210928	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2127562-011	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3929413)									
EB2127450-007	0874_SD202_210928	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2127562-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3929413)									
EB2127450-007	0874_SD202_210928	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2127562-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3929147)									
EB2127450-004	0874_SW205_210928	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3929147)									
EB2127450-004	0874_SW205_210928	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3929147)									
EB2127450-004	0874_SW205_210928	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3929147) - continued									
EB2127450-004	0874_SW205_210928	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3929147)									
EB2127450-004	0874_SW205_210928	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3929147)									
EB2127450-004	0874_SW205_210928	EP231X: Sum of PFAS	----	0.01	µg/L	0.14	0.14	0.0	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.12	0.12	0.0	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.14	0.14	0.0	0% - 50%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3929413)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	114	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	112	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	114	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	118	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	109	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	114	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3929413)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	114	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	115	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929413)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	132	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	96.0	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	116	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	131	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929413)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	120	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	120	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	94.6	65.0	137	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929413) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	104	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3929147)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	123	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	128	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	132	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	129	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	128	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3929147)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	# 133	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	125	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	128	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	122	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	123	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	113	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929147)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	129	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	130	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	135	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	115	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	121	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	130	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	124	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929147)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	141	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	134	64.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929147) - continued								
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	128	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	126	64.2	133
EP231P: PFAS Sums (QCLot: 3929147)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3929413)							
EB2127450-008	0874_SD203_210928	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	116	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	110	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	107	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	125	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	102	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	118	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3929413)							
EB2127450-008	0874_SD203_210928	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	113	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	108	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	122	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	108	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	109	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	117	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	118	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	114	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	107	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	123	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	121	69.0	133
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929413)					
EB2127450-008	0874_SD203_210928	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	99.6	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	112	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929413) - continued							
EB2127450-008	0874_SD203_210928	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	118	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	120	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	126	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	121	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	123	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929413)							
EB2127450-008	0874_SD203_210928	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	130	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	138	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	118	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	121	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3929147)							
EB2127450-005	0874_SW206_210928	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	126	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	118	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	116	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	123	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	122	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3929147)							
EB2127450-005	0874_SW206_210928	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	122	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	113	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	111	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	122	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	116	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	126	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	114	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	120	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	110	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	115	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	109	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929147)							
EB2127450-005	0874_SW206_210928	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	120	59.0	135



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3929147) - continued							
EB2127450-005	0874_SW206_210928	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	112	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	124	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	116	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	117	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	116	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	118	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3929147)							
EB2127450-005	0874_SW206_210928	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	124	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	135	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	117	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	119	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2127450

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : ---
Facsimile : ---
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28111
Site : QLD_0874
Sampler : [Redacted]

Laboratory : Environmental Division Brisbane
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 29-Sep-2021 08:20
Client Requested Due Date : 06-Oct-2021
Issue Date : 29-Sep-2021
Scheduled Reporting Date : 06-Oct-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : MEDIUM
Security Seal : Not Available
Temperature : 6.1°C - Ice present
No. of samples received / analysed : 16 / 16

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
*Samples were originally received by ALS Townsville on 28/09/21 (15.3°C), and forwarded to ALS Brisbane for analysis.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Sample "QC200_210924" has been forwarded to Eurofins, as requested. Please note that this will incur a freight forwarding fee.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2127450-007	28-Sep-2021 07:40	0874_SD202_210928	✓	✓
EB2127450-008	28-Sep-2021 09:55	0874_SD203_210928	✓	✓
EB2127450-009	28-Sep-2021 10:10	0874_SD204_210928	✓	✓
EB2127450-010	28-Sep-2021 08:35	0874_SD205_210928	✓	✓
EB2127450-011	28-Sep-2021 09:05	0874_SD206_210928	✓	✓
EB2127450-012	28-Sep-2021 09:25	0874_SD207_210928	✓	✓
EB2127450-014	28-Sep-2021 07:40	0874_QC101_210928	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2127450-001	28-Sep-2021 07:30	0874_SW202_210928	✓
EB2127450-002	28-Sep-2021 09:58	0874_SW203_210928	✓
EB2127450-003	28-Sep-2021 10:05	0874_SW204_210928	✓
EB2127450-004	28-Sep-2021 08:30	0874_SW205_210928	✓
EB2127450-005	28-Sep-2021 09:00	0874_SW206_210928	✓
EB2127450-006	28-Sep-2021 09:20	0874_SW207_210928	✓
EB2127450-013	28-Sep-2021 07:30	0874_QC100_210928	✓
EB2127450-015	28-Sep-2021 11:40	0874_QC300_210928	✓
EB2127450-016	28-Sep-2021 06:30	0874_QC500_210928	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2128523
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28376
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 75
No. of samples analysed : 75

Page : 1 of 35
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Oct-2021 08:45
Date Analysis Commenced : 12-Oct-2021
Issue Date : 18-Oct-2021 16:47



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Inorganic Chemist and Assistant Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: The LOR of particular analytes have been raised due to sample matrix interferences.
- EP231X (Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS): Particular samples required dilution prior to extraction due to matrix interference. Limits of reporting have been adjusted accordingly.
- EP231X (Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS): Sample 0874_SD019_211007 (EB2128523-068) required dilution prior to analysis due to matrix interference. Surrogate recoveries were unable to be determined.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD111_211006	0874_SD110_211006	0874_SD107_211006	0874_SD108_211006	0874_SD201_211006
Sampling date / time				06-Oct-2021 08:51	06-Oct-2021 09:10	06-Oct-2021 09:36	06-Oct-2021 09:49	06-Oct-2021 10:35	
Compound	CAS Number	LOR	Unit	EB2128523-003	EB2128523-005	EB2128523-007	EB2128523-008	EB2128523-010	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	52.1	37.5	6.4	42.4	23.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0005	<0.0008	0.0007	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0006	0.0006	0.0008	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0093	0.0071	0.0092	0.0007	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0013	0.0006	0.0004	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.114	0.0525	0.0230	0.0033	<0.0002	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0008	<0.0002	<0.0005	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	<0.0002	<0.0004	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	0.0012	0.0009	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	0.0004	0.0003	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD111_211006	0874_SD110_211006	0874_SD107_211006	0874_SD108_211006	0874_SD201_211006
Sampling date / time				06-Oct-2021 08:51	06-Oct-2021 09:10	06-Oct-2021 09:36	06-Oct-2021 09:49	06-Oct-2021 10:35	
Compound	CAS Number	LOR	Unit	EB2128523-003	EB2128523-005	EB2128523-007	EB2128523-008	EB2128523-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.128	0.0624	0.0356	0.0040	<0.0002	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.123	0.0596	0.0322	0.0040	<0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.126	0.0612	0.0341	0.0040	<0.0002	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	91.0	80.5	97.0	94.0	81.5	
13C8-PFOA	----	0.0002	%	91.5	90.0	88.0	89.5	84.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD129_211006	0874_QC103_211006	0874_SD017_211006	0874_SD021_211006	0874_SD120_211006
Sampling date / time				06-Oct-2021 11:06	06-Oct-2021 11:07	06-Oct-2021 11:35	06-Oct-2021 11:53	06-Oct-2021 12:13	
Compound	CAS Number	LOR	Unit	EB2128523-012	EB2128523-013	EB2128523-016	EB2128523-018	EB2128523-020	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	37.9	37.4	22.5	28.2	18.5	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0023	0.0023	<0.0002	<0.0002	0.0002	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD129_211006	0874_QC103_211006	0874_SD017_211006	0874_SD021_211006	0874_SD120_211006
Sampling date / time				06-Oct-2021 11:06	06-Oct-2021 11:07	06-Oct-2021 11:35	06-Oct-2021 11:53	06-Oct-2021 12:13	
Compound	CAS Number	LOR	Unit	EB2128523-012	EB2128523-013	EB2128523-016	EB2128523-018	EB2128523-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0023	0.0023	<0.0002	<0.0002	0.0002	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0023	0.0023	<0.0002	<0.0002	0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0023	0.0023	<0.0002	<0.0002	0.0002	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	96.5	92.5	96.5	78.5	89.0	
13C8-PFOA	----	0.0002	%	82.0	86.0	84.0	79.5	89.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD127_211006	0874_SD210_211006	0874_SD109_211006	0874_SD208_211006	0874_SD116_211006
Sampling date / time				06-Oct-2021 12:30	06-Oct-2021 13:08	06-Oct-2021 13:38	06-Oct-2021 13:58	06-Oct-2021 14:20	
Compound	CAS Number	LOR	Unit	EB2128523-022	EB2128523-024	EB2128523-027	EB2128523-029	EB2128523-032	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	59.5	35.2	21.9	46.0	36.0	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	<0.0002	<0.0002	0.0003	0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0020	0.0004	0.0004	0.0075	0.0033	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD127_211006	0874_SD210_211006	0874_SD109_211006	0874_SD208_211006	0874_SD116_211006
Sampling date / time				06-Oct-2021 12:30	06-Oct-2021 13:08	06-Oct-2021 13:38	06-Oct-2021 13:58	06-Oct-2021 14:20	
Compound	CAS Number	LOR	Unit	EB2128523-022	EB2128523-024	EB2128523-027	EB2128523-029	EB2128523-032	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0030	0.0004	0.0004	0.0078	0.0035	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0022	0.0004	0.0004	0.0078	0.0035	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0022	0.0004	0.0004	0.0078	0.0035	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.5	91.0	86.5	85.0	82.5	
13C8-PFOA	----	0.0002	%	91.0	88.0	86.0	87.5	86.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_QC105_211006	0874_SD114_211006	0874_SD115_211006	0874_SD113_211006	0874_SD119_211006
Sampling date / time				06-Oct-2021 14:21	06-Oct-2021 14:42	06-Oct-2021 14:57	06-Oct-2021 15:29	06-Oct-2021 15:50	
Compound	CAS Number	LOR	Unit	EB2128523-033	EB2128523-035	EB2128523-037	EB2128523-040	EB2128523-042	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	38.8	62.8	56.2	27.1	26.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0002	0.0004	0.0016	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0002	0.0004	0.0014	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0003	0.0013	0.0025	0.0031	0.0077	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0003	0.0002	0.0004	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0046	0.0088	0.0277	0.0158	0.0058	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0003	0.0008	0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0002	0.0005	0.0007	0.0035	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0003	<0.0002	0.0008	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_QC105_211006	0874_SD114_211006	0874_SD115_211006	0874_SD113_211006	0874_SD119_211006
Sampling date / time				06-Oct-2021 14:21	06-Oct-2021 14:42	06-Oct-2021 14:57	06-Oct-2021 15:29	06-Oct-2021 15:50	
Compound	CAS Number	LOR	Unit	EB2128523-033	EB2128523-035	EB2128523-037	EB2128523-040	EB2128523-042	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0049	0.0106	0.0325	0.0208	0.0223	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0049	0.0101	0.0302	0.0189	0.0135	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0049	0.0103	0.0312	0.0200	0.0205	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	81.0	98.5	93.5	99.5	85.5	
13C8-PFOA	----	0.0002	%	84.0	83.0	85.5	92.0	79.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_211007	0874_SD118_211007	0874_SD112_211007	0874_SD014_211007	0874_SD102_211007
Sampling date / time				07-Oct-2021 08:17	07-Oct-2021 08:32	07-Oct-2021 09:15	07-Oct-2021 10:02	07-Oct-2021 10:32	
Compound	CAS Number	LOR	Unit	EB2128523-043	EB2128523-045	EB2128523-048	EB2128523-051	EB2128523-053	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	44.1	70.4	58.3	34.7	79.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0008	0.0017	<0.0002	<0.0002	0.0077	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0011	0.0022	<0.0002	<0.0002	0.0099	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0082	0.0157	<0.0002	0.0002	0.0903	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0014	0.0023	<0.0002	<0.0002	0.0059	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0898	0.162	0.0003	0.0008	0.219	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0012	0.0051	<0.0002	<0.0002	0.0027	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	0.003	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0004	0.0007	<0.0002	<0.0002	0.0015	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0018	0.0039	<0.0002	<0.0002	0.0117	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0003	0.0008	<0.0002	<0.0002	0.0011	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0012	0.0021	<0.0002	<0.0002	0.0026	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0002	0.0005	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0003	0.0016	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_211007	0874_SD118_211007	0874_SD112_211007	0874_SD014_211007	0874_SD102_211007
Sampling date / time				07-Oct-2021 08:17	07-Oct-2021 08:32	07-Oct-2021 09:15	07-Oct-2021 10:02	07-Oct-2021 10:32	
Compound	CAS Number	LOR	Unit	EB2128523-043	EB2128523-045	EB2128523-048	EB2128523-051	EB2128523-053	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.106	0.200	0.0003	0.0010	0.355	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0980	0.178	0.0003	0.0010	0.309	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.102	0.187	0.0003	0.0010	0.337	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	108	123	79.5	92.5	97.5	
13C8-PFOA	----	0.0002	%	104	100	104	104	108	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD013_211007	0874_SD016_211007	0874_SD125_211007	0874_SD123_211007	0874_QC107_211007
Sampling date / time				07-Oct-2021 10:46	07-Oct-2021 10:56	07-Oct-2021 11:19	07-Oct-2021 11:36	07-Oct-2021 11:38	
Compound	CAS Number	LOR	Unit	EB2128523-055	EB2128523-056	EB2128523-058	EB2128523-059	EB2128523-062	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	2.3	34.5	4.0	25.6	24.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0008	0.0003	0.0019	<0.0005	<0.0005	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0008	0.0003	0.0019	<0.0005	<0.0005	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0077	0.0038	0.0162	0.0050	0.0057	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0009	0.0004	0.0015	0.0010	0.0013	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0342	0.0261	0.155	0.152	0.187	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0006	0.0022	0.0049	0.0066	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.002	<0.002	<0.002	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0004	<0.0002	0.0005	<0.0005	<0.0005	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0009	0.0007	0.0041	0.0012	0.0015	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0008	0.0042	0.0054	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD013_211007	0874_SD016_211007	0874_SD125_211007	0874_SD123_211007	0874_QC107_211007
Sampling date / time				07-Oct-2021 10:46	07-Oct-2021 10:56	07-Oct-2021 11:19	07-Oct-2021 11:36	07-Oct-2021 11:38	
Compound	CAS Number	LOR	Unit	EB2128523-055	EB2128523-056	EB2128523-058	EB2128523-059	EB2128523-062	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0012	<0.0012	<0.0012	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0457	0.0322	0.184	0.168	0.208	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0419	0.0299	0.171	0.157	0.193	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0440	0.0309	0.178	0.158	0.194	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.5	93.5	130	105	120	
13C8-PFOA	----	0.0002	%	108	104	90.0	100	95.0	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD010_211007	0874_SD001_211007	0874_SD019_211007	0874_SD131_211007	0874_SD126_211007
Sampling date / time				07-Oct-2021 11:53	07-Oct-2021 12:26	07-Oct-2021 13:09	07-Oct-2021 13:39	07-Oct-2021 14:32	
Compound	CAS Number	LOR	Unit	EB2128523-063	EB2128523-065	EB2128523-068	EB2128523-069	EB2128523-072	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	20.5	32.3	16.5	42.4	22.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0007	0.0106	0.0003	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0011	0.0149	0.0004	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0004	0.0109	0.144	0.0045	0.0015	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0017	0.0115	0.0005	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0052	0.0579	0.780	0.0223	0.0332	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0006	0.0173	0.0003	0.0005	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.013	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0004	0.0100	0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0019	0.0464	0.0009	0.0003	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0004	0.0079	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0022	0.0127	0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.0005	0.0039	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0063	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0312	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0063	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD010_211007	0874_SD001_211007	0874_SD019_211007	0874_SD131_211007	0874_SD126_211007
Sampling date / time				07-Oct-2021 11:53	07-Oct-2021 12:26	07-Oct-2021 13:09	07-Oct-2021 13:39	07-Oct-2021 14:32	
Compound	CAS Number	LOR	Unit	EB2128523-063	EB2128523-065	EB2128523-068	EB2128523-069	EB2128523-072	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0063	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0063	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0063	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0025	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0434	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0030	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0056	0.0783	1.14	0.0296	0.0355	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0056	0.0688	0.924	0.0268	0.0347	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0056	0.0744	1.06	0.0284	0.0350	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	106	116	Not Determined	93.0	79.5	
13C8-PFOA	----	0.0002	%	106	109	Not Determined	118	103	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_SD121_211007	----	----	----	----
		Sampling date / time		07-Oct-2021 15:14	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2128523-074	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	41.9	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0003	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0003	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0040	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0008	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0857	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0098	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0003	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0008	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0003	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0874_SD121_211007	----	----	----	----
Sampling date / time			07-Oct-2021 15:14	----	----	----	----	----
Compound	CAS Number	LOR	Unit	EB2128523-074	-----	-----	-----	-----
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	0.102	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0897	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0902	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	104	----	----	----	----
13C8-PFOA	----	0.0002	%	100	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW300_211006	0874_QC501_211006	0874_SW111_211006	0874_SW110_211006	0874_SW108_211006
Sampling date / time				06-Oct-2021 08:04	06-Oct-2021 08:06	06-Oct-2021 08:53	06-Oct-2021 09:11	06-Oct-2021 09:50	
Compound	CAS Number	LOR	Unit	EB2128523-001	EB2128523-002	EB2128523-004	EB2128523-006	EB2128523-009	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.29	<0.02	0.50	0.48	0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	<0.02	0.49	0.46	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.23	<0.02	3.24	3.14	0.06	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.15	0.15	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	<0.01	1.70	1.79	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.18	0.18	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.02	<0.02	1.31	1.39	0.08	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.09	0.10	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	0.14	0.18	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW300_211006	0874_QC501_211006	0874_SW111_211006	0874_SW110_211006	0874_SW108_211006
Sampling date / time				06-Oct-2021 08:04	06-Oct-2021 08:06	06-Oct-2021 08:53	06-Oct-2021 09:11	06-Oct-2021 09:50	
Compound	CAS Number	LOR	Unit	EB2128523-001	EB2128523-002	EB2128523-004	EB2128523-006	EB2128523-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.66	<0.01	7.90	7.97	0.22	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	<0.01	4.94	4.93	0.06	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.61	<0.01	7.26	7.36	0.19	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.3	98.6	101	96.8	91.6	
13C8-PFOA	----	0.02	%	96.6	93.2	94.9	97.3	91.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_211006	0874_SW129_211006	0874_QC102_211006	0874_SW017_211006	0874_SW021_211006
Sampling date / time				06-Oct-2021 10:36	06-Oct-2021 11:08	06-Oct-2021 11:09	06-Oct-2021 11:36	06-Oct-2021 11:54	
Compound	CAS Number	LOR	Unit	EB2128523-011	EB2128523-014	EB2128523-015	EB2128523-017	EB2128523-019	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.07	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.02	0.10	0.07	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.02	0.08	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_211006	0874_SW129_211006	0874_QC102_211006	0874_SW017_211006	0874_SW021_211006
Sampling date / time				06-Oct-2021 10:36	06-Oct-2021 11:08	06-Oct-2021 11:09	06-Oct-2021 11:36	06-Oct-2021 11:54	
Compound	CAS Number	LOR	Unit	EB2128523-011	EB2128523-014	EB2128523-015	EB2128523-017	EB2128523-019	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.04	0.26	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.04	0.18	0.10	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.04	0.26	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.6	91.4	89.8	89.9	93.2	
13C8-PFOA	----	0.02	%	94.8	92.4	97.1	99.1	98.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW120_211006	0874_SW127_211006	0874_SW210_211006	0874_SW109_211006	0874_SW208_211006
Sampling date / time				06-Oct-2021 12:14	06-Oct-2021 12:30	06-Oct-2021 13:08	06-Oct-2021 13:08	06-Oct-2021 13:37	06-Oct-2021 13:56
Compound	CAS Number	LOR	Unit	EB2128523-021	EB2128523-023	EB2128523-025	EB2128523-026	EB2128523-028	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.13	0.03	<0.02	0.06	0.08	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.13	0.03	<0.01	0.08	0.10	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	<0.02	<0.02	0.03	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW120_211006	0874_SW127_211006	0874_SW210_211006	0874_SW109_211006	0874_SW208_211006
Sampling date / time				06-Oct-2021 12:14	06-Oct-2021 12:30	06-Oct-2021 13:08	06-Oct-2021 13:37	06-Oct-2021 13:56	
Compound	CAS Number	LOR	Unit	EB2128523-021	EB2128523-023	EB2128523-025	EB2128523-026	EB2128523-028	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.43	0.06	<0.01	0.17	0.21	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.26	0.06	<0.01	0.14	0.18	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.43	0.06	<0.01	0.17	0.21	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.3	96.4	101	88.4	105	
13C8-PFOA	----	0.02	%	95.3	98.3	95.4	95.7	96.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_211006	0874_QC104_211006	0874_SW114_211006	0874_SW115_211006	0874_QC301_211006
Sampling date / time				06-Oct-2021 14:20	06-Oct-2021 14:20	06-Oct-2021 14:41	06-Oct-2021 14:57	06-Oct-2021 15:01	
Compound	CAS Number	LOR	Unit	EB2128523-030	EB2128523-031	EB2128523-034	EB2128523-036	EB2128523-038	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.05	0.15	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.04	0.13	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.24	0.24	0.22	0.78	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.36	0.34	0.21	1.07	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.10	0.10	0.11	0.33	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.05	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.02	0.02	0.09	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_211006	0874_QC104_211006	0874_SW114_211006	0874_SW115_211006	0874_QC301_211006
Sampling date / time				06-Oct-2021 14:20	06-Oct-2021 14:20	06-Oct-2021 14:41	06-Oct-2021 14:57	06-Oct-2021 15:01	
Compound	CAS Number	LOR	Unit	EB2128523-030	EB2128523-031	EB2128523-034	EB2128523-036	EB2128523-038	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.81	0.78	0.65	2.70	0.04	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.60	0.58	0.43	1.85	0.04	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.77	0.74	0.61	2.52	0.04	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.4	91.2	98.5	88.8	105	
13C8-PFOA	----	0.02	%	98.0	97.3	97.4	96.6	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW113_211006	0874_SW119_211006	0874_SW117_211007	0874_SW118_211007	0874_SW112_211007
Sampling date / time				06-Oct-2021 15:28	06-Oct-2021 15:48	07-Oct-2021 08:17	07-Oct-2021 08:33	07-Oct-2021 09:14	
Compound	CAS Number	LOR	Unit	EB2128523-039	EB2128523-041	EB2128523-044	EB2128523-046	EB2128523-047	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.35	1.12	0.84	0.49	<0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.10	1.20	0.88	0.48	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	4.75	5.08	4.07	2.62	0.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	0.42	0.37	0.19	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.57	5.69	7.00	3.70	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.3	0.2	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.32	0.40	0.32	0.18	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.04	2.42	1.95	1.04	0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.15	0.29	0.24	0.14	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.22	0.49	0.53	0.30	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.03	0.04	0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW113_211006	0874_SW119_211006	0874_SW117_211007	0874_SW118_211007	0874_SW112_211007
Sampling date / time				06-Oct-2021 15:28	06-Oct-2021 15:48	07-Oct-2021 08:17	07-Oct-2021 08:33	07-Oct-2021 09:14	
Compound	CAS Number	LOR	Unit	EB2128523-039	EB2128523-041	EB2128523-044	EB2128523-046	EB2128523-047	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	13.0	17.4	16.4	9.36	0.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.32	10.8	11.1	6.32	0.07	
Sum of PFAS (WA DER List)	----	0.01	µg/L	11.7	15.8	15.2	8.67	0.09	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	102	96.6	104	103	
13C8-PFOA	----	0.02	%	96.4	100	99.3	98.5	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW234_211007	0874_MW255_211007	0874_SW014_211007	0874_SW102_211007	0874_SW016_211007
Sampling date / time				07-Oct-2021 09:28	07-Oct-2021 09:38	07-Oct-2021 10:03	07-Oct-2021 10:33	07-Oct-2021 10:56	
Compound	CAS Number	LOR	Unit	EB2128523-049	EB2128523-050	EB2128523-052	EB2128523-054	EB2128523-057	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	2.27	0.93	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	1.48	0.40	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.04	<0.02	0.03	5.99	0.93	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.13	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.01	0.05	1.18	0.09	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.3	0.3	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.38	0.38	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	2.88	1.56	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.16	0.11	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.18	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW234_211007	0874_MW255_211007	0874_SW014_211007	0874_SW102_211007	0874_SW016_211007
Sampling date / time					07-Oct-2021 09:28	07-Oct-2021 09:38	07-Oct-2021 10:03	07-Oct-2021 10:33	07-Oct-2021 10:56
Compound	CAS Number	LOR	Unit	EB2128523-049	EB2128523-050	EB2128523-052	EB2128523-054	EB2128523-057	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.10	0.01	0.08	15.0	4.72	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.01	0.08	7.17	1.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.01	0.08	13.3	4.32	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	95.6	102	106	99.6	
13C8-PFOA	----	0.02	%	100	102	103	103	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_211007	0874_QC106_211007	0874_SW010_211007	0874_SW001_211007	0874_SW132_211007
Sampling date / time				07-Oct-2021 11:36	07-Oct-2021 11:37	07-Oct-2021 11:53	07-Oct-2021 12:27	07-Oct-2021 12:37	
Compound	CAS Number	LOR	Unit	EB2128523-060	EB2128523-061	EB2128523-064	EB2128523-066	EB2128523-067	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.40	1.40	<0.02	1.01	1.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.44	1.37	<0.02	1.15	1.28	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	8.24	7.95	0.04	5.44	5.91	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.16	1.14	<0.02	0.54	0.59	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	39.8	38.6	0.10	10.4	8.34	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.32	<0.32	<0.02	<0.04	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.4	<0.1	0.2	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.71	0.74	<0.02	0.39	0.43	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.12	2.92	0.03	2.46	2.67	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.33	0.34	<0.02	0.32	0.34	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.82	0.80	<0.01	0.68	0.68	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.08	0.08	<0.02	0.05	0.04	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.03	0.03	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.08	0.10	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_211007	0874_QC106_211007	0874_SW010_211007	0874_SW001_211007	0874_SW132_211007
Sampling date / time				07-Oct-2021 11:36	07-Oct-2021 11:37	07-Oct-2021 11:53	07-Oct-2021 12:27	07-Oct-2021 12:37	
Compound	CAS Number	LOR	Unit	EB2128523-060	EB2128523-061	EB2128523-064	EB2128523-066	EB2128523-067	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	1.13	0.96	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.07	0.07	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	58.8	56.9	0.17	22.6	21.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	48.0	46.6	0.14	15.8	14.2	
Sum of PFAS (WA DER List)	----	0.01	µg/L	56.0	54.2	0.17	20.9	19.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	102	108	90.9	97.3	
13C8-PFOA	----	0.02	%	103	100	101	99.3	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_211007	0874_SW126_211007	0874_QC302_211007	0874_MW222_211006	----
				Sampling date / time	07-Oct-2021 13:39	07-Oct-2021 14:32	07-Oct-2021 14:33	07-Oct-2021 15:14	----
Compound	CAS Number	LOR	Unit	EB2128523-070	EB2128523-071	EB2128523-073	EB2128523-075	-----	
				Result	Result	Result	Result	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	0.42	<0.02	<0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.27	0.38	<0.02	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.99	2.17	<0.02	0.05	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.12	0.17	<0.02	<0.02	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.29	7.15	<0.01	0.02	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.08	<0.02	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.2	<0.1	0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.11	0.18	<0.02	<0.02	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.59	0.82	<0.02	<0.02	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.07	<0.02	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.16	<0.01	<0.01	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW131_211007	0874_SW126_211007	0874_QC302_211007	0874_MW222_211006	----
Sampling date / time			07-Oct-2021 13:39	07-Oct-2021 14:32	07-Oct-2021 14:33	07-Oct-2021 15:14	----	----
Compound	CAS Number	LOR	Unit	EB2128523-070	EB2128523-071	EB2128523-073	EB2128523-075	-----
				Result	Result	Result	Result	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	5.90	11.7	<0.01	0.17	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.28	9.32	<0.01	0.07	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.51	11.2	<0.01	0.17	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	107	94.1	103	101	----
13C8-PFOA	----	0.02	%	103	101	101	102	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2128523	Page	: 1 of 12
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 12-Oct-2021
Site	: QLD_0874	Issue Date	: 18-Oct-2021
Sampler	: [REDACTED]	No. of samples received	: 75
Order number	: 60612487_2.1	No. of samples analysed	: 75

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2128523--005	0874_SD110_211006	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2128523--045	0874_SD118_211007	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055)								
0874_SD111_211006, 0874_SD107_211006, 0874_SD201_211006, 0874_QC103_211006, 0874_SD021_211006, 0874_SD127_211006, 0874_SD109_211006, 0874_SD116_211006, 0874_SD114_211006, 0874_SD113_211006,	0874_SD110_211006, 0874_SD108_211006, 0874_SD129_211006, 0874_SD017_211006, 0874_SD120_211006, 0874_SD210_211006, 0874_SD208_211006, 0874_QC105_211006, 0874_SD115_211006, 0874_SD119_211006	06-Oct-2021	----	----	----	12-Oct-2021	20-Oct-2021	✓
HDPE Soil Jar (EA055)								
0874_SD117_211007, 0874_SD112_211007, 0874_SD102_211007, 0874_SD016_211007, 0874_SD123_211007, 0874_SD010_211007, 0874_SD019_211007, 0874_SD126_211007,	0874_SD118_211007, 0874_SD014_211007, 0874_SD013_211007, 0874_SD125_211007, 0874_QC107_211007, 0874_SD001_211007, 0874_SD131_211007, 0874_SD121_211007	07-Oct-2021	----	----	----	12-Oct-2021	21-Oct-2021	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis									
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation							
EP231A: Perfluoroalkyl Sulfonic Acids														
HDPE Soil Jar (EP231X)														
0874_SD111_211006,	0874_SD110_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	22-Nov-2021	✓						
0874_SD107_211006,	0874_SD108_211006,													
0874_SD201_211006,	0874_SD129_211006,													
0874_QC103_211006,	0874_SD017_211006,													
0874_SD021_211006,	0874_SD120_211006,													
0874_SD127_211006,	0874_SD210_211006,													
0874_SD109_211006,	0874_SD208_211006,													
0874_SD116_211006,	0874_QC105_211006,													
0874_SD114_211006,	0874_SD115_211006,													
0874_SD113_211006,	0874_SD119_211006													
HDPE Soil Jar (EP231X)														
0874_SD117_211007,	0874_SD118_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	13-Oct-2021	22-Nov-2021	✓						
0874_SD112_211007,	0874_SD014_211007,													
0874_SD102_211007,	0874_SD013_211007,													
0874_SD016_211007,	0874_SD125_211007,													
0874_SD123_211007,	0874_QC107_211007,													
0874_SD010_211007,	0874_SD001_211007,													
0874_SD019_211007,	0874_SD131_211007,													
0874_SD126_211007,	0874_SD121_211007													
EP231B: Perfluoroalkyl Carboxylic Acids														
HDPE Soil Jar (EP231X)														
0874_SD111_211006,	0874_SD110_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	22-Nov-2021	✓						
0874_SD107_211006,	0874_SD108_211006,													
0874_SD201_211006,	0874_SD129_211006,													
0874_QC103_211006,	0874_SD017_211006,													
0874_SD021_211006,	0874_SD120_211006,													
0874_SD127_211006,	0874_SD210_211006,													
0874_SD109_211006,	0874_SD208_211006,													
0874_SD116_211006,	0874_QC105_211006,													
0874_SD114_211006,	0874_SD115_211006,													
0874_SD113_211006,	0874_SD119_211006													
HDPE Soil Jar (EP231X)														
0874_SD117_211007,	0874_SD118_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	13-Oct-2021	22-Nov-2021	✓						
0874_SD112_211007,	0874_SD014_211007,													
0874_SD102_211007,	0874_SD013_211007,													
0874_SD016_211007,	0874_SD125_211007,													
0874_SD123_211007,	0874_QC107_211007,													
0874_SD010_211007,	0874_SD001_211007,													
0874_SD019_211007,	0874_SD131_211007,													
0874_SD126_211007,	0874_SD121_211007													



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis									
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation							
EP231C: Perfluoroalkyl Sulfonamides														
HDPE Soil Jar (EP231X)														
0874_SD111_211006,	0874_SD110_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	22-Nov-2021	✓						
0874_SD107_211006,	0874_SD108_211006,													
0874_SD201_211006,	0874_SD129_211006,													
0874_QC103_211006,	0874_SD017_211006,													
0874_SD021_211006,	0874_SD120_211006,													
0874_SD127_211006,	0874_SD210_211006,													
0874_SD109_211006,	0874_SD208_211006,													
0874_SD116_211006,	0874_QC105_211006,													
0874_SD114_211006,	0874_SD115_211006,													
0874_SD113_211006,	0874_SD119_211006													
HDPE Soil Jar (EP231X)														
0874_SD117_211007,	0874_SD118_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	13-Oct-2021	22-Nov-2021	✓						
0874_SD112_211007,	0874_SD014_211007,													
0874_SD102_211007,	0874_SD013_211007,													
0874_SD016_211007,	0874_SD125_211007,													
0874_SD123_211007,	0874_QC107_211007,													
0874_SD010_211007,	0874_SD001_211007,													
0874_SD019_211007,	0874_SD131_211007,													
0874_SD126_211007,	0874_SD121_211007													
EP231D: (n:2) Fluorotelomer Sulfonic Acids														
HDPE Soil Jar (EP231X)														
0874_SD111_211006,	0874_SD110_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	22-Nov-2021	✓						
0874_SD107_211006,	0874_SD108_211006,													
0874_SD201_211006,	0874_SD129_211006,													
0874_QC103_211006,	0874_SD017_211006,													
0874_SD021_211006,	0874_SD120_211006,													
0874_SD127_211006,	0874_SD210_211006,													
0874_SD109_211006,	0874_SD208_211006,													
0874_SD116_211006,	0874_QC105_211006,													
0874_SD114_211006,	0874_SD115_211006,													
0874_SD113_211006,	0874_SD119_211006													
HDPE Soil Jar (EP231X)														
0874_SD117_211007,	0874_SD118_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	13-Oct-2021	22-Nov-2021	✓						
0874_SD112_211007,	0874_SD014_211007,													
0874_SD102_211007,	0874_SD013_211007,													
0874_SD016_211007,	0874_SD125_211007,													
0874_SD123_211007,	0874_QC107_211007,													
0874_SD010_211007,	0874_SD001_211007,													
0874_SD019_211007,	0874_SD131_211007,													
0874_SD126_211007,	0874_SD121_211007													



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0874_SD111_211006, 0874_SD107_211006, 0874_SD201_211006, 0874_QC103_211006, 0874_SD021_211006, 0874_SD127_211006, 0874_SD109_211006, 0874_SD116_211006, 0874_SD114_211006, 0874_SD113_211006,	0874_SD110_211006, 0874_SD108_211006, 0874_SD129_211006, 0874_SD017_211006, 0874_SD120_211006, 0874_SD210_211006, 0874_SD208_211006, 0874_QC105_211006, 0874_SD115_211006, 0874_SD119_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	22-Nov-2021	✓
HDPE Soil Jar (EP231X)								
0874_SD117_211007, 0874_SD112_211007, 0874_SD102_211007, 0874_SD016_211007, 0874_SD123_211007, 0874_SD010_211007, 0874_SD019_211007, 0874_SD126_211007,	0874_SD118_211007, 0874_SD014_211007, 0874_SD013_211007, 0874_SD125_211007, 0874_QC107_211007, 0874_SD001_211007, 0874_SD131_211007, 0874_SD121_211007	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	13-Oct-2021	22-Nov-2021	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW300_211006, 0874_SW111_211006, 0874_SW108_211006, 0874_SW129_211006, 0874_SW017_211006, 0874_SW120_211006, 0874_SW210_211006, 0874_SW208_211006, 0874_QC104_211006, 0874_SW115_211006	0874_QC501_211006, 0874_SW110_211006, 0874_SW201_211006, 0874_QC102_211006, 0874_SW021_211006, 0874_SW127_211006, 0874_SW109_211006, 0874_SW116_211006, 0874_SW114_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	13-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC301_211006, 0874_SW119_211006	0874_SW113_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_211007, 0874_SW112_211007, 0874_MW255_211007, 0874_SW102_211007, 0874_SW123_211007, 0874_SW010_211007, 0874_SW132_211007, 0874_SW126_211007, 0874_MW222_211006	0874_SW118_211007, 0874_MW234_211007, 0874_SW014_211007, 0874_SW016_211007, 0874_QC106_211007, 0874_SW001_211007, 0874_SW131_211007, 0874_QC302_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	14-Oct-2021	05-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW300_211006, 0874_SW111_211006, 0874_SW108_211006, 0874_SW129_211006, 0874_SW017_211006, 0874_SW120_211006, 0874_SW210_211006, 0874_SW208_211006, 0874_QC104_211006, 0874_SW115_211006	0874_QC501_211006, 0874_SW110_211006, 0874_SW201_211006, 0874_QC102_211006, 0874_SW021_211006, 0874_SW127_211006, 0874_SW109_211006, 0874_SW116_211006, 0874_SW114_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	13-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC301_211006, 0874_SW119_211006	0874_SW113_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_211007, 0874_SW112_211007, 0874_MW255_211007, 0874_SW102_211007, 0874_SW123_211007, 0874_SW010_211007, 0874_SW132_211007, 0874_SW126_211007, 0874_MW222_211006	0874_SW118_211007, 0874_MW234_211007, 0874_SW014_211007, 0874_SW016_211007, 0874_QC106_211007, 0874_SW001_211007, 0874_SW131_211007, 0874_QC302_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	14-Oct-2021	05-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW300_211006, 0874_SW111_211006, 0874_SW108_211006, 0874_SW129_211006, 0874_SW017_211006, 0874_SW120_211006, 0874_SW210_211006, 0874_SW208_211006, 0874_QC104_211006, 0874_SW115_211006	0874_QC501_211006, 0874_SW110_211006, 0874_SW201_211006, 0874_QC102_211006, 0874_SW021_211006, 0874_SW127_211006, 0874_SW109_211006, 0874_SW116_211006, 0874_SW114_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	13-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC301_211006, 0874_SW119_211006	0874_SW113_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_211007, 0874_SW112_211007, 0874_MW255_211007, 0874_SW102_211007, 0874_SW123_211007, 0874_SW010_211007, 0874_SW132_211007, 0874_SW126_211007, 0874_MW222_211006	0874_SW118_211007, 0874_MW234_211007, 0874_SW014_211007, 0874_SW016_211007, 0874_QC106_211007, 0874_SW001_211007, 0874_SW131_211007, 0874_QC302_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	14-Oct-2021	05-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW300_211006, 0874_SW111_211006, 0874_SW108_211006, 0874_SW129_211006, 0874_SW017_211006, 0874_SW120_211006, 0874_SW210_211006, 0874_SW208_211006, 0874_QC104_211006, 0874_SW115_211006	0874_QC501_211006, 0874_SW110_211006, 0874_SW201_211006, 0874_QC102_211006, 0874_SW021_211006, 0874_SW127_211006, 0874_SW109_211006, 0874_SW116_211006, 0874_SW114_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	13-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC301_211006, 0874_SW119_211006	0874_SW113_211006,	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_211007, 0874_SW112_211007, 0874_MW255_211007, 0874_SW102_211007, 0874_SW123_211007, 0874_SW010_211007, 0874_SW132_211007, 0874_SW126_211007, 0874_MW222_211006	0874_SW118_211007, 0874_MW234_211007, 0874_SW014_211007, 0874_SW016_211007, 0874_QC106_211007, 0874_SW001_211007, 0874_SW131_211007, 0874_QC302_211007,	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	14-Oct-2021	05-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW300_211006, 0874_SW111_211006, 0874_SW108_211006, 0874_SW129_211006, 0874_SW017_211006, 0874_SW120_211006, 0874_SW210_211006, 0874_SW208_211006, 0874_QC104_211006, 0874_SW115_211006	0874_QC501_211006, 0874_SW110_211006, 0874_SW201_211006, 0874_QC102_211006, 0874_SW021_211006, 0874_SW127_211006, 0874_SW109_211006, 0874_SW116_211006, 0874_SW114_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	13-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC301_211006, 0874_SW119_211006	0874_SW113_211006	06-Oct-2021	13-Oct-2021	04-Apr-2022	✓	14-Oct-2021	04-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_211007, 0874_SW112_211007, 0874_MW255_211007, 0874_SW102_211007, 0874_SW123_211007, 0874_SW010_211007, 0874_SW132_211007, 0874_SW126_211007, 0874_MW222_211006	0874_SW118_211007, 0874_MW234_211007, 0874_SW014_211007, 0874_SW016_211007, 0874_QC106_211007, 0874_SW001_211007, 0874_SW131_211007, 0874_QC302_211007	07-Oct-2021	13-Oct-2021	05-Apr-2022	✓	14-Oct-2021	05-Apr-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	39	10.26	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	39	10.26	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	39	10.26	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



QUALITY CONTROL REPORT

Work Order : EB2128523
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28376
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 75
No. of samples analysed : 75

Page : 1 of 19
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 12-Oct-2021
Date Analysis Commenced : 12-Oct-2021
Issue Date : 18-Oct-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Inorganic Chemist and Assistant Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3951294)									
EB2128523-003	0874_SD111_211006	EA055: Moisture Content	----	0.1	%	52.1	52.1	0.0	0% - 20%
EB2128523-022	0874_SD127_211006	EA055: Moisture Content	----	0.1	%	59.5	56.5	5.1	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3951296)									
EB2128523-043	0874_SD117_211007	EA055: Moisture Content	----	0.1	%	44.1	51.8	16.0	0% - 20%
EB2128523-063	0874_SD010_211007	EA055: Moisture Content	----	0.1	%	20.5	21.6	5.2	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951293)									
EB2128523-003	0874_SD111_211006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0005	0.0005	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0093	0.0081	14.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0013	0.0010	23.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.114	0.0942	19.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0008	0.0008	0.0	No Limit
EB2128523-022	0874_SD127_211006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0020	0.0020	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951295)									
EB2128523-043	0874_SD117_211007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0008	0.0008	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0011	0.0010	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0082	0.0081	1.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0014	0.0014	0.0	No Limit



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951295) - continued											
EB2128523-043	0874_SD117_211007	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0898	0.0920	2.4	0% - 20%		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0012	<0.0024	66.7	No Limit		
EB2128523-063	0874_SD010_211007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0004	0.0002	38.4	No Limit		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0052	0.0043	19.0	0% - 20%		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951293)											
EB2128523-003	0874_SD111_211006	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	0.0012	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit		
		EB2128523-022	0874_SD127_211006	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
				EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.0002	mg/kg	0.0003	0.0002	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.0002	mg/kg	0.0005	0.0006	23.2	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.001	mg/kg	<0.001	<0.001	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951295)											
EB2128523-043	0874_SD117_211007			EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0004	0.0003	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0018	0.0018	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0012	0.0011	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951295) - continued									
EB2128523-043	0874_SD117_211007	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2128523-063	0874_SD010_211007	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3951293)									
EB2128523-003	0874_SD111_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2128523-022	0874_SD127_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3951295)									
EB2128523-043	0874_SD117_211007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0003	0.0004	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2128523-063	0874_SD010_211007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951293)									
EB2128523-003	0874_SD111_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2128523-022	0874_SD127_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951293) - continued									
EB2128523-022	0874_SD127_211006	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951295)									
EB2128523-043	0874_SD117_211007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2128523-063	0874_SD010_211007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951253)									
EB2128523-001	0874_MW300_211006	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.29	0.28	3.7	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.04	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.23	0.25	6.4	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2128523-023	0874_SW127_211006	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951393)									
EB2128523-041	0874_SW119_211006	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.69	5.72	0.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.12	1.04	7.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.20	1.13	5.4	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	5.08	4.92	3.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.42	0.41	0.0	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3951393) - continued									
EB2128523-041	0874_SW119_211006	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2128523-070	0874_SW131_211007	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.29	2.63	13.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.26	0.28	7.4	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.27	0.29	8.5	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.99	2.03	1.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.12	0.13	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951253)									
EB2128523-001	0874_MW300_211006	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EB2128523-023	0874_SW127_211006	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951393)									
EB2128523-041	0874_SW119_211006	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.49	0.48	3.2	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.40	0.41	0.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.42	2.40	0.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.29	0.29	0.0	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3951393) - continued									
EB2128523-041	0874_SW119_211006	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.3	0.0	No Limit
EB2128523-070	0874_SW131_211007	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.12	12.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.11	0.12	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.59	0.65	8.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3951253)									
EB2128523-001	0874_MW300_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2128523-023	0874_SW127_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3951393)



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3951393) - continued									
EB2128523-041	0874_SW119_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2128523-070	0874_SW131_211007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951253)									
EB2128523-001	0874_MW300_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2128523-023	0874_SW127_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951253) - continued									
EB2128523-023	0874_SW127_211006	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3951393)									
EB2128523-041	0874_SW119_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2128523-070	0874_SW131_211007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3951253)									
EB2128523-001	0874_MW300_211006	EP231X: Sum of PFAS	----	0.01	µg/L	0.66	0.67	1.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	0.31	10.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.61	0.63	3.2	0% - 20%
EB2128523-023	0874_SW127_211006	EP231X: Sum of PFAS	----	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.06	0.06	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3951393)									
EB2128523-041	0874_SW119_211006	EP231X: Sum of PFAS	----	0.01	µg/L	17.4	17.1	1.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	10.8	10.6	1.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	15.8	15.6	1.5	0% - 20%
EB2128523-070	0874_SW131_211007	EP231X: Sum of PFAS	----	0.01	µg/L	5.90	6.32	6.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.28	4.66	8.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.51	5.90	6.8	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951293)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	80.4	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	90.2	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	84.7	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	106	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	79.3	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	87.5	59.0	134	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951295)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	101	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	95.7	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	94.1	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	96.2	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	120	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	121	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951293)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	80.7	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.6	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.2	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.4	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.4	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTriDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.8	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.2	69.0	133	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951295)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	87.3	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.2	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	119	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.4	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.8	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	64.0	136	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951295) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.6	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951293)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.1	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.4	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	96.8	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	87.3	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.2	61.0	139	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951295)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	103	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.8	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	88.9	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.4	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.4	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951293)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	94.4	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	100	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	82.1	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	85.8	54.8	124	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951295)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	96.6	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	101	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	105	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	102	54.8	124	

Sub-Matrix: WATER

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
	Spike	Spike Recovery (%)	Acceptable Limits (%)



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951253)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	108	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	109	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.6	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951393)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	122	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	115	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	114	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	129	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	114	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	119	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951253)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	84.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	92.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	101	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	112	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	102	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951393)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	108	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	112	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	114	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	112	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951253)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951253) - continued								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	98.0	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	80.9	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.8	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	103	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951393)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	136	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	119	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951253)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	104	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	129	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	100	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	104	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951393)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	115	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	131	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	119	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	123	64.2	133
EP231P: PFAS Sums (QCLot: 3951253)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3951393)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3951393) - continued								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951293)							
EB2128523-005	0874_SD110_211006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	90.9	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	114	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	96.7	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	88.2	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	61.3	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951295)							
EB2128523-045	0874_SD118_211007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	107	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	114	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	87.0	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	112	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	111	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951293)							
EB2128523-005	0874_SD110_211006	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	71.0	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	80.2	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	105	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	84.6	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	90.1	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	79.2	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	93.6	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	99.2	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	90.1	69.0	135



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951293) - continued							
EB2128523-005	0874_SD110_211006	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	121	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	89.6	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951295)							
EB2128523-045	0874_SD118_211007	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	80.2	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	96.0	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	96.9	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	104	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	94.5	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	101	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	98.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	102	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	104	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	132	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	105	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951293)							
EB2128523-005	0874_SD110_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	74.1	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	96.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	82.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	77.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	85.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	89.6	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	85.2	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951295)							
EB2128523-045	0874_SD118_211007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	115	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	109	63.0	144



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951295) - continued							
EB2128523-045	0874_SD118_211007	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	103	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951293)							
EB2128523-005	0874_SD110_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	89.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	88.3	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	70.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951295)							
EB2128523-045	0874_SD118_211007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	103	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	120	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	104	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	72.1	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951253)							
EB2128523-017	0874_SW017_211006	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	105	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	111	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	93.1	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	97.1	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	93.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3951393)							
EB2128523-047	0874_SW112_211007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.1	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	116	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	115	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	122	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	122	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	137	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951253)							
EB2128523-017	0874_SW017_211006	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	75.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	82.1	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	105	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	85.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.3	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	84.8	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	85.6	71.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951253) - continued							
EB2128523-017	0874_SW017_211006	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	91.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	91.2	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	100	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.2	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3951393)							
EB2128523-047	0874_SW112_211007	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	104	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	126	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	108	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	113	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	110	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	113	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	111	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	122	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951253)					
EB2128523-017	0874_SW017_211006	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	94.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	89.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	98.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	97.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951393)							
EB2128523-047	0874_SW112_211007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	111	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	126	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	108	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	108	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	110	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3951393) - continued							
EB2128523-047	0874_SW112_211007	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	126	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	115	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951253)							
EB2128523-017	0874_SW017_211006	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	102	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.5	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	97.1	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3951393)							
EB2128523-047	0874_SW112_211007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	117	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	133	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	116	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	122	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2128523

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 5
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number	: 28376	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 12-Oct-2021 08:45	Issue Date	: 12-Oct-2021
Client Requested Due Date	: 19-Oct-2021	Scheduled Reporting Date	: 19-Oct-2021

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 2	Temperature	: 1.9, 2.6°C - Ice present
Receipt Detail	: MEDIUM	No. of samples received / analysed	: 75 / 75

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **For your reference: sample '0874_MW222_211006' (ALS #75) was received with two empty container. Please take this into consideration when reviewing your results.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2128523-003	06-Oct-2021 08:51	0874_SD111_211006	✓	✓
EB2128523-005	06-Oct-2021 09:10	0874_SD110_211006	✓	✓
EB2128523-007	06-Oct-2021 09:36	0874_SD107_211006	✓	✓
EB2128523-008	06-Oct-2021 09:49	0874_SD108_211006	✓	✓
EB2128523-010	06-Oct-2021 10:35	0874_SD201_211006	✓	✓
EB2128523-012	06-Oct-2021 11:06	0874_SD129_211006	✓	✓
EB2128523-013	06-Oct-2021 11:07	0874_QC103_211006	✓	✓
EB2128523-016	06-Oct-2021 11:35	0874_SD017_211006	✓	✓
EB2128523-018	06-Oct-2021 11:53	0874_SD021_211006	✓	✓
EB2128523-020	06-Oct-2021 12:13	0874_SD120_211006	✓	✓
EB2128523-022	06-Oct-2021 12:30	0874_SD127_211006	✓	✓
EB2128523-024	06-Oct-2021 13:08	0874_SD210_211006	✓	✓
EB2128523-027	06-Oct-2021 13:38	0874_SD109_211006	✓	✓
EB2128523-029	06-Oct-2021 13:58	0874_SD208_211006	✓	✓
EB2128523-032	06-Oct-2021 14:20	0874_SD116_211006	✓	✓
EB2128523-033	06-Oct-2021 14:21	0874_QC105_211006	✓	✓
EB2128523-035	06-Oct-2021 14:42	0874_SD114_211006	✓	✓
EB2128523-037	06-Oct-2021 14:57	0874_SD115_211006	✓	✓
EB2128523-040	06-Oct-2021 15:29	0874_SD113_211006	✓	✓
EB2128523-042	06-Oct-2021 15:50	0874_SD119_211006	✓	✓
EB2128523-043	07-Oct-2021 08:17	0874_SD117_211007	✓	✓
EB2128523-045	07-Oct-2021 08:32	0874_SD118_211007	✓	✓
EB2128523-048	07-Oct-2021 09:15	0874_SD112_211007	✓	✓
EB2128523-051	07-Oct-2021 10:02	0874_SD014_211007	✓	✓
EB2128523-053	07-Oct-2021 10:32	0874_SD102_211007	✓	✓
EB2128523-055	07-Oct-2021 10:46	0874_SD013_211007	✓	✓
EB2128523-056	07-Oct-2021 10:56	0874_SD016_211007	✓	✓
EB2128523-058	07-Oct-2021 11:19	0874_SD125_211007	✓	✓
EB2128523-059	07-Oct-2021 11:36	0874_SD123_211007	✓	✓
EB2128523-062	07-Oct-2021 11:38	0874_QC107_211007	✓	✓
EB2128523-063	07-Oct-2021 11:53	0874_SD010_211007	✓	✓
EB2128523-065	07-Oct-2021 12:26	0874_SD001_211007	✓	✓
EB2128523-068	07-Oct-2021 13:09	0874_SD019_211007	✓	✓
EB2128523-069	07-Oct-2021 13:39	0874_SD131_211007	✓	✓
EB2128523-072	07-Oct-2021 14:32	0874_SD126_211007	✓	✓



			SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2128523-074	07-Oct-2021 15:14	0874_SD121_211007	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2128523-001	06-Oct-2021 08:04	0874_MW300_211006	✓
EB2128523-002	06-Oct-2021 08:06	0874_QC501_211006	✓
EB2128523-004	06-Oct-2021 08:53	0874_SW111_211006	✓
EB2128523-006	06-Oct-2021 09:11	0874_SW110_211006	✓
EB2128523-009	06-Oct-2021 09:50	0874_SW108_211006	✓
EB2128523-011	06-Oct-2021 10:36	0874_SW201_211006	✓
EB2128523-014	06-Oct-2021 11:08	0874_SW129_211006	✓
EB2128523-015	06-Oct-2021 11:09	0874_QC102_211006	✓
EB2128523-017	06-Oct-2021 11:36	0874_SW017_211006	✓
EB2128523-019	06-Oct-2021 11:54	0874_SW021_211006	✓
EB2128523-021	06-Oct-2021 12:14	0874_SW120_211006	✓
EB2128523-023	06-Oct-2021 12:30	0874_SW127_211006	✓
EB2128523-025	06-Oct-2021 13:08	0874_SW210_211006	✓
EB2128523-026	06-Oct-2021 13:37	0874_SW109_211006	✓
EB2128523-028	06-Oct-2021 13:56	0874_SW208_211006	✓
EB2128523-030	06-Oct-2021 14:20	0874_SW116_211006	✓
EB2128523-031	06-Oct-2021 14:20	0874_QC104_211006	✓
EB2128523-034	06-Oct-2021 14:41	0874_SW114_211006	✓
EB2128523-036	06-Oct-2021 14:57	0874_SW115_211006	✓
EB2128523-038	06-Oct-2021 15:01	0874_QC301_211006	✓
EB2128523-039	06-Oct-2021 15:28	0874_SW113_211006	✓
EB2128523-041	06-Oct-2021 15:48	0874_SW119_211006	✓
EB2128523-044	07-Oct-2021 08:17	0874_SW117_211007	✓
EB2128523-046	07-Oct-2021 08:33	0874_SW118_211007	✓
EB2128523-047	07-Oct-2021 09:14	0874_SW112_211007	✓
EB2128523-049	07-Oct-2021 09:28	0874_MW234_211007	✓
EB2128523-050	07-Oct-2021 09:38	0874_MW255_211007	✓
EB2128523-052	07-Oct-2021 10:03	0874_SW014_211007	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2128523-054	07-Oct-2021 10:33	0874_SW102_211007		✓
EB2128523-057	07-Oct-2021 10:56	0874_SW016_211007		✓
EB2128523-060	07-Oct-2021 11:36	0874_SW123_211007		✓
EB2128523-061	07-Oct-2021 11:37	0874_QC106_211007		✓
EB2128523-064	07-Oct-2021 11:53	0874_SW010_211007		✓
EB2128523-066	07-Oct-2021 12:27	0874_SW001_211007		✓
EB2128523-067	07-Oct-2021 12:37	0874_SW132_211007		✓
EB2128523-070	07-Oct-2021 13:39	0874_SW131_211007		✓
EB2128523-071	07-Oct-2021 14:32	0874_SW126_211007		✓
EB2128523-073	07-Oct-2021 14:33	0874_QC302_211007		✓
EB2128523-075	07-Oct-2021 15:14	0874_MW222_211006		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2129262
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28576
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 98
No. of samples analysed : 98

Page : 1 of 43
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 15-Oct-2021 08:50
Date Analysis Commenced : 18-Oct-2021
Issue Date : 22-Oct-2021 15:19



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes roles like Senior Inorganic Chemist and Assistant Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFBA has been raised for several samples due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Particular samples required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly.
- EP231X PFAS: The LOR of PFHpA for sample "0874_MW135_211012" has been raised due to sample matrix interferences.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD106_211011	0874_QC110_211011	0874_SD209_211011	----	----
		Sampling date / time		11-Oct-2021 13:35	11-Oct-2021 13:36	11-Oct-2021 13:50	----	----
Compound	CAS Number	LOR	Unit	EB2129262-018	EB2129262-019	EB2129262-020	-----	-----
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	11.1	10.8	18.2	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0025	0.0021	0.0008	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0003	0.0003	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0366	0.0333	0.0122	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD106_211011	0874_QC110_211011	0874_SD209_211011	----	----
Sampling date / time				11-Oct-2021 13:35	11-Oct-2021 13:36	11-Oct-2021 13:50	----	----	
Compound	CAS Number	LOR	Unit	EB2129262-018	EB2129262-019	EB2129262-020	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0394	0.0357	0.0130	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0391	0.0354	0.0130	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0391	0.0354	0.0130	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	92.5	84.0	81.5	----	----	
13C8-PFOA	----	0.0002	%	96.0	102	104	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW013_211011	0874_MW129_211011	0874_MW118_211011	0874_MW140_211011	0874_MW142_211011
Sampling date / time					11-Oct-2021 07:51	11-Oct-2021 08:04	11-Oct-2021 08:18	11-Oct-2021 08:32	11-Oct-2021 08:59
Compound	CAS Number	LOR	Unit	EB2129262-001	EB2129262-002	EB2129262-003	EB2129262-004	EB2129262-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	17.9	3.32	1.22	<0.05	0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	17.5	2.62	0.46	<0.05	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	72.8	13.7	1.09	<0.05	0.15	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	11.0	1.01	0.06	<0.05	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	248	27.3	1.62	<0.05	0.24	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	9.1	4.6	0.4	<0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	11.4	8.08	0.38	<0.05	0.04	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	55.2	9.50	0.67	<0.05	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	11.0	1.97	0.11	<0.05	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	16.2	3.45	0.14	<0.05	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	0.21	<0.02	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	0.06	<0.02	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.24	<0.12	<0.05	<0.12	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	0.07	<0.02	<0.05	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.24	<0.12	<0.05	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.24	<0.12	<0.05	<0.12	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW013_211011	0874_MW129_211011	0874_MW118_211011	0874_MW140_211011	0874_MW142_211011
Sampling date / time				11-Oct-2021 07:51	11-Oct-2021 08:04	11-Oct-2021 08:18	11-Oct-2021 08:32	11-Oct-2021 08:59	
Compound	CAS Number	LOR	Unit	EB2129262-001	EB2129262-002	EB2129262-003	EB2129262-004	EB2129262-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.24	<0.12	<0.05	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.24	<0.12	<0.05	<0.12	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.05	<0.02	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	0.09	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	4.31	14.1	0.13	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	0.28	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	474	90.4	6.28	<0.05	0.51	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	321	41.0	2.71	<0.05	0.39	
Sum of PFAS (WA DER List)	----	0.01	µg/L	446	86.3	5.76	<0.05	0.51	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	85.3	85.2	94.0	94.3	
13C8-PFOA	----	0.02	%	100	92.9	93.9	96.6	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC108_211011	0874_MW251_211011	0874_MW250_211011	0874_MW116_211011	0874_MW126_211011
Sampling date / time					11-Oct-2021 09:00	11-Oct-2021 09:18	11-Oct-2021 09:32	11-Oct-2021 10:02	11-Oct-2021 10:16
Compound	CAS Number	LOR	Unit	EB2129262-006	EB2129262-007	EB2129262-008	EB2129262-009	EB2129262-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	1.29	11.9	44.6	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	1.00	10.7	49.6	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.15	0.18	6.24	42.8	230	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.31	3.02	19.8	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.20	0.12	4.38	72.5	244	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	4.2	12.9	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	<0.02	0.36	5.20	19.2	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.06	0.04	1.78	25.0	139	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.11	4.65	23.1	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.18	7.30	45.3	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<1.22	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<1.22	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<1.22	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC108_211011	0874_MW251_211011	0874_MW250_211011	0874_MW116_211011	0874_MW126_211011
Sampling date / time					11-Oct-2021 09:00	11-Oct-2021 09:18	11-Oct-2021 09:32	11-Oct-2021 10:02	11-Oct-2021 10:16
Compound	CAS Number	LOR	Unit	EB2129262-006	EB2129262-007	EB2129262-008	EB2129262-009	EB2129262-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<1.22	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.62	<1.22	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.25	<0.49	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.49	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	1.71	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.49	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.49	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.45	0.36	15.8	187	829	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.35	0.30	10.6	115	474	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.45	0.34	14.5	174	760	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.6	96.7	93.3	91.7	102	
13C8-PFOA	----	0.02	%	100	98.6	97.4	98.8	99.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW034_211011	0874_MW033_211011	0874_MW247_211011	0874_MW248_211011	0874_MW043_211011
Sampling date / time				11-Oct-2021 10:39	11-Oct-2021 10:52	11-Oct-2021 11:26	11-Oct-2021 11:41	11-Oct-2021 11:55	
Compound	CAS Number	LOR	Unit	EB2129262-011	EB2129262-012	EB2129262-013	EB2129262-014	EB2129262-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	6.50	0.80	1.52	13.4	1.93	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	4.18	0.93	2.12	17.0	2.78	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	13.1	8.17	27.3	145	61.9	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.60	0.86	2.58	14.9	3.83	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.92	18.2	96.4	180	115	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.8	0.5	<1.2	2.6	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.22	1.15	1.00	6.10	1.44	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.97	3.06	6.98	34.6	9.78	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.48	1.12	0.72	3.75	1.24	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.42	2.15	2.25	10.3	4.66	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	<0.62	<0.62	<0.61	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	0.13	<0.25	0.68	<0.24	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	<0.62	<0.62	<0.61	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	<0.62	<0.62	<0.61	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW034_211011	0874_MW033_211011	0874_MW247_211011	0874_MW248_211011	0874_MW043_211011
Sampling date / time					11-Oct-2021 10:39	11-Oct-2021 10:52	11-Oct-2021 11:26	11-Oct-2021 11:41	11-Oct-2021 11:55
Compound	CAS Number	LOR	Unit	EB2129262-011	EB2129262-012	EB2129262-013	EB2129262-014	EB2129262-015	EB2129262-015
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	<0.62	<0.62	<0.61	<0.61
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	<0.62	<0.62	<0.61	<0.61
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.25	<0.25	<0.24	<0.24
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	34.2	37.1	141	428	202	202
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.0	26.4	124	325	177	177
Sum of PFAS (WA DER List)	----	0.01	µg/L	29.4	35.2	136	396	196	196
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.9	98.5	100	92.6	96.5	96.5
13C8-PFOA	----	0.02	%	97.3	103	95.9	102	101	101



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC109_211011	0874_MW038_211011	0874_MW264_211011	0874_QC111_211011	0874_MW263_211011
Sampling date / time				11-Oct-2021 11:56	11-Oct-2021 12:24	11-Oct-2021 14:20	11-Oct-2021 14:21	11-Oct-2021 14:41	
Compound	CAS Number	LOR	Unit	EB2129262-016	EB2129262-017	EB2129262-021	EB2129262-022	EB2129262-023	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.08	0.35	0.22	0.22	<0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.02	0.43	0.14	0.14	<0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	61.1	2.63	0.66	0.67	0.17	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	3.82	0.16	<0.02	<0.02	<0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	108	3.28	0.06	0.06	0.18	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.2	0.2	0.1	0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.65	0.15	<0.02	<0.02	<0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	10.2	0.54	<0.02	<0.02	<0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.38	0.10	<0.02	<0.02	<0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	4.55	0.15	<0.01	<0.01	<0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.62	<0.05	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.62	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.62	<0.05	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC109_211011	0874_MW038_211011	0874_MW264_211011	0874_QC111_211011	0874_MW263_211011
Sampling date / time				11-Oct-2021 11:56	11-Oct-2021 12:24	11-Oct-2021 14:20	11-Oct-2021 14:21	11-Oct-2021 14:41	
Compound	CAS Number	LOR	Unit	EB2129262-016	EB2129262-017	EB2129262-021	EB2129262-022	EB2129262-023	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.62	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.62	<0.05	<0.05	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.25	<0.02	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	196	7.99	1.18	1.19	0.35	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	169	5.91	0.72	0.73	0.35	
Sum of PFAS (WA DER List)	----	0.01	µg/L	189	7.40	1.04	1.05	0.35	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.8	91.9	97.0	95.8	87.9	
13C8-PFOA	----	0.02	%	101	98.5	99.9	93.9	97.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW120_211011	0874_MW232_211011	0874_QC502_211011	0874_MW090_211011	0874_MW046_211011
Sampling date / time				11-Oct-2021 15:37	11-Oct-2021 15:45	11-Oct-2021 15:54	11-Oct-2021 16:21	11-Oct-2021 16:32	
Compound	CAS Number	LOR	Unit	EB2129262-024	EB2129262-025	EB2129262-026	EB2129262-027	EB2129262-028	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.21	0.69	<0.02	0.06	0.11	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.38	0.69	<0.02	0.03	0.19	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	9.60	5.20	<0.02	0.42	2.56	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.70	0.45	<0.02	0.02	0.19	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	15.3	10.7	<0.01	1.56	1.93	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.2	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.52	0.29	<0.02	0.04	0.08	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.68	1.00	<0.02	0.10	0.74	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.30	0.20	<0.02	<0.02	0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.77	0.37	<0.01	<0.01	0.12	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW120_211011	0874_MW232_211011	0874_QC502_211011	0874_MW090_211011	0874_MW046_211011
Sampling date / time					11-Oct-2021 15:37	11-Oct-2021 15:45	11-Oct-2021 15:54	11-Oct-2021 16:21	11-Oct-2021 16:32
Compound	CAS Number	LOR	Unit	EB2129262-024	EB2129262-025	EB2129262-026	EB2129262-027	EB2129262-028	EB2129262-028
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.09	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	33.0	19.8	<0.01	2.23	5.97	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	24.9	15.9	<0.01	1.98	4.49	
Sum of PFAS (WA DER List)	----	0.01	µg/L	30.9	18.6	<0.01	2.18	5.59	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	99.3	108	106	98.2	
13C8-PFOA	----	0.02	%	102	100	104	103	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW081_211011	0874_QC303_211011	0874_MW139_211012	0874_MW138_211012	0874_MW015_211012
Sampling date / time					11-Oct-2021 16:41	11-Oct-2021 16:47	12-Oct-2021 08:22	12-Oct-2021 08:34	12-Oct-2021 09:00
Compound	CAS Number	LOR	Unit	EB2129262-029	EB2129262-030	EB2129262-031	EB2129262-032	EB2129262-033	EB2129262-033
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	117	<0.02	13.8	19.1	20.7	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	196	<0.02	13.8	19.8	29.1	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2520	<0.02	90.5	145	276	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	217	<0.02	10.6	9.70	20.2	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2060	0.02	230	181	137	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	23.9	<0.1	6.0	10.0	7.0	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	50.0	<0.02	8.37	11.4	9.86	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	418	<0.02	45.8	51.5	64.9	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	52.2	<0.02	6.98	5.00	6.73	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	121	<0.01	12.8	8.27	12.6	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<11.1	<0.05	<1.25	<1.24	<1.24	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<11.1	<0.05	<1.25	<1.24	<1.24	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<11.1	<0.05	<1.25	<1.24	<1.24	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW081_211011	0874_QC303_211011	0874_MW139_211012	0874_MW138_211012	0874_MW015_211012
Sampling date / time				11-Oct-2021 16:41	11-Oct-2021 16:47	12-Oct-2021 08:22	12-Oct-2021 08:34	12-Oct-2021 09:00	
Compound	CAS Number	LOR	Unit	EB2129262-029	EB2129262-030	EB2129262-031	EB2129262-032	EB2129262-033	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<11.1	<0.05	<1.25	<1.24	<1.24	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<11.1	<0.05	<1.25	<1.24	<1.24	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<4.42	<0.02	<0.50	<0.50	<0.50	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<4.42	<0.05	<0.50	<0.50	<0.50	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<4.42	<0.05	5.83	0.74	<0.50	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<4.42	<0.05	<0.50	<0.50	<0.50	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<4.42	<0.05	<0.50	<0.50	<0.50	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	5780	0.02	444	462	584	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4580	0.02	320	326	413	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5360	0.02	420	432	535	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	97.3	92.7	98.4	89.4	
13C8-PFOA	----	0.02	%	102	107	96.4	98.9	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_211012	0874_MW021_211012	0874_MW136_211012	0874_MW265_211012	0874_MW242_211012
Sampling date / time				12-Oct-2021 09:11	12-Oct-2021 09:24	12-Oct-2021 10:14	12-Oct-2021 10:26	12-Oct-2021 10:41	
Compound	CAS Number	LOR	Unit	EB2129262-034	EB2129262-035	EB2129262-036	EB2129262-037	EB2129262-038	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	25.1	1030	0.14	0.66	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	33.0	1440	0.07	0.36	0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	339	21900	0.52	1.14	0.33	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	27.7	1410	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	264	12200	0.36	0.27	0.17	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	9.1	510	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	13.5	670	<0.02	0.08	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	69.6	4050	0.02	0.27	0.06	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	8.53	500	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	17.8	1300	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.24	<250	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.24	<250	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.24	<250	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_211012	0874_MW021_211012	0874_MW136_211012	0874_MW265_211012	0874_MW242_211012
Sampling date / time					12-Oct-2021 09:11	12-Oct-2021 09:24	12-Oct-2021 10:14	12-Oct-2021 10:26	12-Oct-2021 10:41
Compound	CAS Number	LOR	Unit	EB2129262-034	EB2129262-035	EB2129262-036	EB2129262-037	EB2129262-038	Result
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.24	<250	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.24	<250	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<100	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<100	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	1.19	<100	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<100	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<100	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	808	45000	1.11	2.78	0.67	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	603	34100	0.88	1.41	0.50	
Sum of PFAS (WA DER List)	----	0.01	µg/L	748	42200	1.04	2.42	0.62	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.6	100	97.8	96.3	100	
13C8-PFOA	----	0.02	%	91.2	102	100	99.1	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW241_211012	0874_MW004_211012	0874_MW122_211012	0874_MW002_211012	0874_MW135_211012
Sampling date / time				12-Oct-2021 10:55	12-Oct-2021 11:07	12-Oct-2021 11:20	12-Oct-2021 11:33	12-Oct-2021 11:54	
Compound	CAS Number	LOR	Unit	EB2129262-039	EB2129262-040	EB2129262-041	EB2129262-042	EB2129262-043	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.35	0.04	0.02	0.46	0.71	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.32	<0.02	<0.02	0.46	0.66	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.98	0.08	0.05	3.64	4.08	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	<0.02	<0.02	0.29	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.04	0.04	4.66	0.27	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	0.2	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	<0.02	<0.02	0.23	0.11	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.13	<0.02	<0.02	1.20	0.63	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.14	<0.06	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.24	<0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW241_211012	0874_MW004_211012	0874_MW122_211012	0874_MW002_211012	0874_MW135_211012
Sampling date / time				12-Oct-2021 10:55	12-Oct-2021 11:07	12-Oct-2021 11:20	12-Oct-2021 11:33	12-Oct-2021 11:54	
Compound	CAS Number	LOR	Unit	EB2129262-039	EB2129262-040	EB2129262-041	EB2129262-042	EB2129262-043	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.09	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.04	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.23	0.16	0.11	11.5	6.51	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.24	0.12	0.09	8.30	4.35	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.86	0.16	0.11	10.8	5.80	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	92.8	107	117	101	
13C8-PFOA	----	0.02	%	105	102	102	103	96.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW056_211012	0874_MW057_211012	0874_QC304_211012	0874_MW207_211012	0874_QC305_211012
Sampling date / time				12-Oct-2021 12:06	12-Oct-2021 12:22	12-Oct-2021 12:26	12-Oct-2021 09:30	12-Oct-2021 16:30	
Compound	CAS Number	LOR	Unit	EB2129262-044	EB2129262-045	EB2129262-046	EB2129262-047	EB2129262-048	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.84	2.24	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.70	2.25	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	4.22	11.2	<0.02	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.51	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.50	4.88	<0.01	0.02	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.5	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.17	0.95	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.67	5.00	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.11	0.27	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.27	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW056_211012	0874_MW057_211012	0874_QC304_211012	0874_MW207_211012	0874_QC305_211012
Sampling date / time					12-Oct-2021 12:06	12-Oct-2021 12:22	12-Oct-2021 12:26	12-Oct-2021 09:30	12-Oct-2021 16:30
Compound	CAS Number	LOR	Unit		EB2129262-044	EB2129262-045	EB2129262-046	EB2129262-047	EB2129262-048
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	8.65	28.1	<0.01	0.02	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.72	16.1	<0.01	0.02	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	7.85	25.3	<0.01	0.02	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	112	112	99.5	107	98.2	98.2
13C8-PFOA	----	0.02	%	105	98.0	98.9	99.2	97.5	97.5



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW213_211012	0874_MW215_211012	0874_MW208_211012	0874_MW216_211012	0874_MW205_211012
Sampling date / time				12-Oct-2021 13:35	12-Oct-2021 14:50	12-Oct-2021 10:00	12-Oct-2021 15:25	12-Oct-2021 08:30	
Compound	CAS Number	LOR	Unit	EB2129262-049	EB2129262-050	EB2129262-051	EB2129262-052	EB2129262-053	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.05	0.11	0.02	0.09	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	0.15	0.04	0.08	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	<0.01	0.08	0.25	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	0.02	<0.02	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW213_211012	0874_MW215_211012	0874_MW208_211012	0874_MW216_211012	0874_MW205_211012
Sampling date / time					12-Oct-2021 13:35	12-Oct-2021 14:50	12-Oct-2021 10:00	12-Oct-2021 15:25	12-Oct-2021 08:30
Compound	CAS Number	LOR	Unit	EB2129262-049	EB2129262-050	EB2129262-051	EB2129262-052	EB2129262-053	EB2129262-053
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.12	0.05	0.36	0.31	0.28	0.28
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	<0.01	0.23	0.29	0.11	0.11
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.12	0.05	0.36	0.31	0.24	0.24
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	95.3	92.5	109	96.4	96.4
13C8-PFOA	----	0.02	%	97.2	99.1	93.5	93.9	95.8	95.8



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW212_211012	0874_MW233_211012	0874_MW206_211012	0874_MW214_211012	0874_MW252_211012
Sampling date / time					12-Oct-2021 12:40	12-Oct-2021 10:30	12-Oct-2021 09:00	12-Oct-2021 14:05	12-Oct-2021 10:55
Compound	CAS Number	LOR	Unit	EB2129262-054	EB2129262-055	EB2129262-056	EB2129262-057	EB2129262-058	EB2129262-058
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	2.50	<0.02	0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	2.32	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	12.1	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.15	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.02	0.01	0.15	0.02	0.01	0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	1.0	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.99	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	5.42	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.37	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	<0.01	0.13	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.24	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.24	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.24	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW212_211012	0874_MW233_211012	0874_MW206_211012	0874_MW214_211012	0874_MW252_211012
Sampling date / time					12-Oct-2021 12:40	12-Oct-2021 10:30	12-Oct-2021 09:00	12-Oct-2021 14:05	12-Oct-2021 10:55
Compound	CAS Number	LOR	Unit	EB2129262-054	EB2129262-055	EB2129262-056	EB2129262-057	EB2129262-058	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.24	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.24	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.10	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.02	0.01	25.1	0.02	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.02	0.01	12.2	0.02	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.02	0.01	22.7	0.02	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.5	94.2	104	100	102	
13C8-PFOA	----	0.02	%	97.5	96.2	106	97.9	99.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW253_211012	0874_MW301_211012	0874_MW218_211012	0874_MW219_211012	0874_MW110_211013
Sampling date / time					12-Oct-2021 11:20	12-Oct-2021 11:45	12-Oct-2021 16:00	12-Oct-2021 16:20	13-Oct-2021 09:52
Compound	CAS Number	LOR	Unit	EB2129262-059	EB2129262-060	EB2129262-061	EB2129262-062	EB2129262-063	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.04	0.08	0.05	17.0	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.07	<0.02	16.6	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.05	2.47	0.02	168	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.07	<0.02	12.7	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.25	0.45	0.01	257	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	15.4	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.05	0.04	<0.02	24.6	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.06	0.37	<0.02	59.1	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.03	0.02	<0.02	5.16	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.03	0.02	<0.01	9.32	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<1.24	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.50	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<1.24	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<1.24	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW253_211012	0874_MW301_211012	0874_MW218_211012	0874_MW219_211012	0874_MW110_211013
Sampling date / time					12-Oct-2021 11:20	12-Oct-2021 11:45	12-Oct-2021 16:00	12-Oct-2021 16:20	13-Oct-2021 09:52
Compound	CAS Number	LOR	Unit	EB2129262-059	EB2129262-060	EB2129262-061	EB2129262-062	EB2129262-063	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<1.24
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<1.24
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.50
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.50
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.50
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	2.08
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.50
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.50
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.03	0.51	3.59	0.08	587	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.30	2.92	0.03	425	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.51	3.45	0.08	558	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.6	100	103	91.7	87.2	
13C8-PFOA	----	0.02	%	97.2	100	97.2	102	94.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC114_211013	0874_MW109_211013	0874_MW055_211013	0874_MW054_211013	0874_QC115_211013
Sampling date / time					13-Oct-2021 09:53	13-Oct-2021 10:01	13-Oct-2021 10:12	13-Oct-2021 10:20	13-Oct-2021 10:46
Compound	CAS Number	LOR	Unit	EB2129262-064	EB2129262-065	EB2129262-066	EB2129262-067	EB2129262-068	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	17.2	85.0	9.26	5.90	30.6	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	15.8	83.0	10.5	5.85	48.1	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	150	607	74.5	37.4	323	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	10.4	58.8	5.55	3.11	22.0	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	230	1050	200	124	79.4	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	16.0	40.5	4.2	<2.4	11.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	23.1	47.5	5.50	2.69	16.8	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	54.8	260	29.0	13.6	115	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	5.20	28.8	3.62	1.32	20.8	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	9.40	53.2	10.0	2.41	32.9	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.50	<6.25	<1.24	<1.18	<1.20	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<1.00	<2.50	1.19	<0.47	<0.48	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.50	<6.25	<1.24	<1.18	<1.20	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.50	<6.25	<1.24	<1.18	<1.20	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC114_211013	0874_MW109_211013	0874_MW055_211013	0874_MW054_211013	0874_QC115_211013
Sampling date / time					13-Oct-2021 09:53	13-Oct-2021 10:01	13-Oct-2021 10:12	13-Oct-2021 10:20	13-Oct-2021 10:46
Compound	CAS Number	LOR	Unit		EB2129262-064	EB2129262-065	EB2129262-066	EB2129262-067	EB2129262-068
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.50	<6.25	<1.24	<1.18	<1.20	<1.20
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.50	<6.25	<1.24	<1.18	<1.20	<1.20
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	<0.48
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	<0.48
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	<0.48
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	1.90	14.0	<0.50	<0.47	2.07	2.07
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	<0.48
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<1.00	<2.50	<0.50	<0.47	<0.48	<0.48
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	534	2330	353	196	702	702
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	380	1660	274	161	402	402
Sum of PFAS (WA DER List)	----	0.01	µg/L	508	2190	336	187	632	632
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	100	98.3	99.1	92.9	92.9
13C8-PFOA	----	0.02	%	100	104	99.2	98.0	97.1	97.1



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW245_211013	0874_MW246_211013	0874_QC112_211013	0874_MW227_211013	0874_MW226_211013
Sampling date / time				13-Oct-2021 10:40	13-Oct-2021 11:08	13-Oct-2021 13:24	13-Oct-2021 13:26	13-Oct-2021 13:37	
Compound	CAS Number	LOR	Unit	EB2129262-069	EB2129262-070	EB2129262-071	EB2129262-072	EB2129262-073	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	32.2	0.03	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	50.5	0.03	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	328	0.20	<0.02	<0.02	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	21.8	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	81.7	0.34	<0.01	<0.01	<0.02	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	12.2	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	17.6	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	114	0.11	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	21.1	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	33.4	0.01	<0.01	<0.01	<0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.20	<0.05	<0.05	<0.05	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.20	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.20	<0.05	<0.05	<0.05	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW245_211013	0874_MW246_211013	0874_QC112_211013	0874_MW227_211013	0874_MW226_211013
Sampling date / time				13-Oct-2021 10:40	13-Oct-2021 11:08	13-Oct-2021 13:24	13-Oct-2021 13:26	13-Oct-2021 13:37	
Compound	CAS Number	LOR	Unit	EB2129262-069	EB2129262-070	EB2129262-071	EB2129262-072	EB2129262-073	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.20	<0.05	<0.05	<0.05	<0.05	<0.06
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.20	<0.05	<0.05	<0.05	<0.05	<0.06
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.48	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.48	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	2.48	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.48	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.48	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	715	0.72	<0.01	<0.01	<0.01	<0.02
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	410	0.54	<0.01	<0.01	<0.01	<0.02
Sum of PFAS (WA DER List)	----	0.01	µg/L	643	0.69	<0.01	<0.01	<0.01	<0.02
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.4	109	104	111	107	
13C8-PFOA	----	0.02	%	99.6	103	102	102	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW229_211013	0874_MW223_211013	0874_MW026_211013	0874_QC113_211013	0874_MW063_211013
Sampling date / time				13-Oct-2021 13:49	13-Oct-2021 14:11	13-Oct-2021 14:24	13-Oct-2021 14:25	13-Oct-2021 14:38	
Compound	CAS Number	LOR	Unit	EB2129262-074	EB2129262-075	EB2129262-076	EB2129262-077	EB2129262-078	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.20	0.10	0.11	1.23	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.19	0.12	0.13	1.82	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	1.56	1.72	1.76	12.4	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.09	0.35	0.36	0.99	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	6.87	16.2	16.1	19.5	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.3	<0.2	<0.2	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.31	0.07	0.06	0.72	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	1.57	0.30	0.30	3.50	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.22	0.06	0.05	0.50	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.15	0.21	0.20	0.92	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.09	<0.12	<0.12	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.04	0.09	0.09	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.09	<0.12	<0.12	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.09	<0.12	<0.12	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW229_211013	0874_MW223_211013	0874_MW026_211013	0874_QC113_211013	0874_MW063_211013
Sampling date / time				13-Oct-2021 13:49	13-Oct-2021 14:11	13-Oct-2021 14:24	13-Oct-2021 14:25	13-Oct-2021 14:38	
Compound	CAS Number	LOR	Unit	EB2129262-074	EB2129262-075	EB2129262-076	EB2129262-077	EB2129262-078	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.09	<0.12	<0.12	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.09	<0.12	<0.12	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.04	<0.05	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	0.17	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	11.5	19.2	19.2	42.4	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	8.43	17.9	17.9	31.9	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	11.2	18.7	18.6	39.5	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	100	101	104	98.5	
13C8-PFOA	----	0.02	%	101	97.0	103	102	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW224_211013	0874_MW061_211013	0874_MW125_211013	0874_MW114_211013	0874_MW112_211013
Sampling date / time				13-Oct-2021 14:49	13-Oct-2021 15:01	13-Oct-2021 15:10	13-Oct-2021 15:17	13-Oct-2021 15:30	
Compound	CAS Number	LOR	Unit	EB2129262-079	EB2129262-080	EB2129262-081	EB2129262-082	EB2129262-083	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.09	0.53	3.67	1.00	3.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.74	5.95	1.36	4.76	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.32	7.31	79.8	15.4	50.8	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.47	4.09	1.43	3.82	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.32	17.2	307	32.8	92.0	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.4	<1.1	0.4	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.16	0.38	2.64	0.49	1.98	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.17	1.69	18.6	2.26	13.6	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.08	0.23	1.26	0.39	1.10	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.66	2.03	0.98	2.30	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.12	<0.02	<0.10	0.05	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.25	<0.12	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.04	<0.10	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.25	<0.12	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.25	<0.12	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW224_211013	0874_MW061_211013	0874_MW125_211013	0874_MW114_211013	0874_MW112_211013
Sampling date / time				13-Oct-2021 14:49	13-Oct-2021 15:01	13-Oct-2021 15:10	13-Oct-2021 15:17	13-Oct-2021 15:30	
Compound	CAS Number	LOR	Unit	EB2129262-079	EB2129262-080	EB2129262-081	EB2129262-082	EB2129262-083	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.25	<0.12	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.25	<0.12	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.10	<0.05	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.16	<0.05	<0.10	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.10	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.52	29.6	425	56.6	173	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.64	24.5	387	48.2	143	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.34	28.4	415	53.7	165	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	110	109	88.9	103	
13C8-PFOA	----	0.02	%	98.7	105	100	98.4	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW009_211013	0874_QC116_211013	0874_QC306_211013	0874_QC307_211013	0874_MW211_211013
Sampling date / time				13-Oct-2021 15:47	13-Oct-2021 15:47	13-Oct-2021 15:54	13-Oct-2021 15:54	13-Oct-2021 10:00	
Compound	CAS Number	LOR	Unit	EB2129262-084	EB2129262-085	EB2129262-086	EB2129262-087	EB2129262-088	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.40	1.36	<0.02	<0.02	<0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.55	1.58	<0.02	<0.02	<0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	11.8	11.9	<0.02	<0.02	0.07	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.03	1.14	<0.02	<0.02	<0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	17.0	17.0	<0.01	<0.01	0.22	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.4	<0.5	<0.1	<0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.67	0.67	<0.02	<0.02	<0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.38	3.75	<0.02	<0.02	<0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.47	0.48	<0.02	<0.02	<0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.34	1.34	<0.01	<0.01	<0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.21	0.28	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW009_211013	0874_QC116_211013	0874_QC306_211013	0874_QC307_211013	0874_MW211_211013
Sampling date / time				13-Oct-2021 15:47	13-Oct-2021 15:47	13-Oct-2021 15:54	13-Oct-2021 15:54	13-Oct-2021 10:00	
Compound	CAS Number	LOR	Unit	EB2129262-084	EB2129262-085	EB2129262-086	EB2129262-087	EB2129262-088	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	<0.05	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	38.8	39.5	<0.01	<0.01	0.29	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	28.8	28.9	<0.01	<0.01	0.29	
Sum of PFAS (WA DER List)	----	0.01	µg/L	36.1	36.5	<0.01	<0.01	0.29	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.3	98.4	109	99.6	101	
13C8-PFOA	----	0.02	%	102	103	100	101	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_211013	0874_MW217_211014	0874_MW221_211014	0874_QC117_211014	0874_MW225_211014
Sampling date / time				13-Oct-2021 10:20	14-Oct-2021 08:58	14-Oct-2021 09:19	14-Oct-2021 09:20	14-Oct-2021 09:42	
Compound	CAS Number	LOR	Unit	EB2129262-089	EB2129262-090	EB2129262-091	EB2129262-092	EB2129262-093	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	<0.02	0.46	0.43	0.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.42	0.44	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.09	<0.02	2.36	2.39	0.13	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.12	0.12	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.40	<0.01	1.39	1.25	0.26	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.2	0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.12	0.11	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.68	0.68	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.07	0.07	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.09	0.09	<0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_211013	0874_MW217_211014	0874_MW221_211014	0874_QC117_211014	0874_MW225_211014
Sampling date / time				13-Oct-2021 10:20	14-Oct-2021 08:58	14-Oct-2021 09:19	14-Oct-2021 09:20	14-Oct-2021 09:42	
Compound	CAS Number	LOR	Unit	EB2129262-089	EB2129262-090	EB2129262-091	EB2129262-092	EB2129262-093	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.52	<0.01	5.71	5.68	0.45	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.49	<0.01	3.75	3.64	0.39	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.52	<0.01	5.17	5.12	0.45	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	101	112	102	93.8	
13C8-PFOA	----	0.02	%	98.3	104	101	104	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW005_211014	0874_MW243_211014	0874_MW467_211014	0874_QC308_211014	0874_MW470_211014
Sampling date / time				14-Oct-2021 10:02	14-Oct-2021 10:23	14-Oct-2021 11:05	14-Oct-2021 11:17	14-Oct-2021 14:21	
Compound	CAS Number	LOR	Unit	EB2129262-094	EB2129262-095	EB2129262-096	EB2129262-097	EB2129262-098	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	50.8	4.22	0.02	<0.02	<0.05	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	65.6	4.40	<0.02	<0.02	<0.05	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1050	22.4	0.14	<0.02	0.07	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	74.2	2.27	<0.02	<0.02	<0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	745	64.7	0.38	<0.01	0.42	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	18.1	1.3	<0.1	<0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	32.4	2.63	<0.02	<0.02	<0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	231	11.1	0.05	<0.02	<0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	21.4	1.01	<0.02	<0.02	<0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	37.7	1.84	0.01	<0.01	<0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.86	0.02	<0.02	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.15	<0.05	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.15	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.15	<0.05	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW005_211014	0874_MW243_211014	0874_MW467_211014	0874_QC308_211014	0874_MW470_211014
Sampling date / time				14-Oct-2021 10:02	14-Oct-2021 10:23	14-Oct-2021 11:05	14-Oct-2021 11:17	14-Oct-2021 14:21	
Compound	CAS Number	LOR	Unit	EB2129262-094	EB2129262-095	EB2129262-096	EB2129262-097	EB2129262-098	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.15	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.15	<0.05	<0.05	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.86	<0.02	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.86	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.86	0.07	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.86	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.86	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2330	116	0.60	<0.01	0.49	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1800	87.1	0.52	<0.01	0.49	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2190	109	0.60	<0.01	0.49	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.3	100	101	100	95.5	
13C8-PFOA	----	0.02	%	100	101	100	100	96.3	



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2129262	Page	: 1 of 15
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 15-Oct-2021
Site	: QLD_0874	Issue Date	: 22-Oct-2021
Sampler	: [REDACTED]	No. of samples received	: 98
Order number	: 60612487_2.1	No. of samples analysed	: 98

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: SOIL

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129205--002	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--008	0874_MW250_211011	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--008	0874_MW250_211011	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--010	0874_MW126_211011	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--008	0874_MW250_211011	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--010	0874_MW126_211011	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2129262--008	0874_MW250_211011	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2129262--010	0874_MW126_211011	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2129262--008	0874_MW250_211011	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: WATER

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	9	97	9.28	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	97	4.12	5.00	NEPM 2013 B3 & ALS QC Standard



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	----	----	----	18-Oct-2021	25-Oct-2021	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	18-Oct-2021	09-Apr-2022	✓	18-Oct-2021	27-Nov-2021	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	18-Oct-2021	09-Apr-2022	✓	18-Oct-2021	27-Nov-2021	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	18-Oct-2021	09-Apr-2022	✓	18-Oct-2021	27-Nov-2021	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	18-Oct-2021	09-Apr-2022	✓	18-Oct-2021	27-Nov-2021	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD106_211011, 0874_SD209_211011	0874_QC110_211011,	11-Oct-2021	18-Oct-2021	09-Apr-2022	✓	18-Oct-2021	27-Nov-2021	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
0874_QC114_211013, 0874_MW246_211013, 0874_MW227_211013, 0874_MW229_211013, 0874_QC113_211013, 0874_MW224_211013, 0874_MW125_211013, 0874_MW112_211013, 0874_QC116_211013, 0874_QC307_211013, 0874_MW471_211013	0874_MW109_211013, 0874_QC112_211013, 0874_MW226_211013, 0874_MW026_211013, 0874_MW063_211013, 0874_MW061_211013, 0874_MW114_211013, 0874_MW009_211013, 0874_QC306_211013, 0874_MW211_211013,	13-Oct-2021	19-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW110_211013, 0874_MW054_211013, 0874_MW245_211013	0874_MW055_211013, 0874_QC115_211013,	13-Oct-2021	20-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓	
HDPE (no PTFE) (EP231X) 0874_QC117_211014		14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	19-Oct-2021	12-Apr-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW217_211014, 0874_MW225_211014, 0874_MW467_211014, 0874_MW470_211014	0874_MW221_211014, 0874_MW243_211014, 0874_QC308_211014,	14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW005_211014		14-Oct-2021	20-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓	



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
0874_QC114_211013, 0874_MW246_211013, 0874_MW227_211013, 0874_MW229_211013, 0874_QC113_211013, 0874_MW224_211013, 0874_MW125_211013, 0874_MW112_211013, 0874_QC116_211013, 0874_QC307_211013, 0874_MW471_211013	0874_MW109_211013, 0874_QC112_211013, 0874_MW226_211013, 0874_MW026_211013, 0874_MW063_211013, 0874_MW061_211013, 0874_MW114_211013, 0874_MW009_211013, 0874_QC306_211013, 0874_MW211_211013,	13-Oct-2021	19-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW110_211013, 0874_MW054_211013, 0874_MW245_211013	0874_MW055_211013, 0874_QC115_211013,	13-Oct-2021	20-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC117_211014		14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	19-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW217_211014, 0874_MW225_211014, 0874_MW467_211014, 0874_MW470_211014	0874_MW221_211014, 0874_MW243_211014, 0874_QC308_211014,	14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW005_211014		14-Oct-2021	20-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides - Continued								
0874_QC114_211013, 0874_MW246_211013, 0874_MW227_211013, 0874_MW229_211013, 0874_QC113_211013, 0874_MW224_211013, 0874_MW125_211013, 0874_MW112_211013, 0874_QC116_211013, 0874_QC307_211013, 0874_MW471_211013	0874_MW109_211013, 0874_QC112_211013, 0874_MW226_211013, 0874_MW026_211013, 0874_MW063_211013, 0874_MW061_211013, 0874_MW114_211013, 0874_MW009_211013, 0874_QC306_211013, 0874_MW211_211013,	13-Oct-2021	19-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW110_211013, 0874_MW054_211013, 0874_MW245_211013	0874_MW055_211013, 0874_QC115_211013,	13-Oct-2021	20-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC117_211014		14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	19-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW217_211014, 0874_MW225_211014, 0874_MW467_211014, 0874_MW470_211014	0874_MW221_211014, 0874_MW243_211014, 0874_QC308_211014,	14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW005_211014		14-Oct-2021	20-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
0874_QC114_211013, 0874_MW246_211013, 0874_MW227_211013, 0874_MW229_211013, 0874_QC113_211013, 0874_MW224_211013, 0874_MW125_211013, 0874_MW112_211013, 0874_QC116_211013, 0874_QC307_211013, 0874_MW471_211013	0874_MW109_211013, 0874_QC112_211013, 0874_MW226_211013, 0874_MW026_211013, 0874_MW063_211013, 0874_MW061_211013, 0874_MW114_211013, 0874_MW009_211013, 0874_QC306_211013, 0874_MW211_211013,	13-Oct-2021	19-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW110_211013, 0874_MW054_211013, 0874_MW245_211013	0874_MW055_211013, 0874_QC115_211013,	13-Oct-2021	20-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC117_211014		14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	19-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW217_211014, 0874_MW225_211014, 0874_MW467_211014, 0874_MW470_211014	0874_MW221_211014, 0874_MW243_211014, 0874_QC308_211014,	14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW005_211014		14-Oct-2021	20-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums - Continued								
0874_QC114_211013, 0874_MW246_211013, 0874_MW227_211013, 0874_MW229_211013, 0874_QC113_211013, 0874_MW224_211013, 0874_MW125_211013, 0874_MW112_211013, 0874_QC116_211013, 0874_QC307_211013, 0874_MW471_211013	0874_MW109_211013, 0874_QC112_211013, 0874_MW226_211013, 0874_MW026_211013, 0874_MW063_211013, 0874_MW061_211013, 0874_MW114_211013, 0874_MW009_211013, 0874_QC306_211013, 0874_MW211_211013,	13-Oct-2021	19-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW110_211013, 0874_MW054_211013, 0874_MW245_211013	0874_MW055_211013, 0874_QC115_211013,	13-Oct-2021	20-Oct-2021	11-Apr-2022	✓	20-Oct-2021	11-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_QC117_211014		14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	19-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW217_211014, 0874_MW225_211014, 0874_MW467_211014, 0874_MW470_211014	0874_MW221_211014, 0874_MW243_211014, 0874_QC308_211014,	14-Oct-2021	19-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW005_211014		14-Oct-2021	20-Oct-2021	12-Apr-2022	✓	20-Oct-2021	12-Apr-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	11	18.18	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	11	9.09	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	9	97	9.28	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	97	7.22	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	97	7.22	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	97	4.12	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



QUALITY CONTROL REPORT

Work Order : **EB2129262**

Client : **AECOM AUSTRALIA PTY LTD**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP**

Order number : **60612487_2.1**

C-O-C number : **28576**

Sampler : [REDACTED]

Site : **QLD_0874**

Quote number : **TV/007/21 - Compass**

No. of samples received : **98**

No. of samples analysed : **98**

Page : 1 of 29

Laboratory : **Environmental Division Brisbane**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : **15-Oct-2021**

Date Analysis Commenced : **18-Oct-2021**

Issue Date : **22-Oct-2021**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Organic Chemist - PFAS	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3960151)									
EB2129262-018	0874_SD106_211011	EA055: Moisture Content	----	0.1	%	11.1	10.1	9.3	0% - 20%
EB2129301-025	Anonymous	EA055: Moisture Content	----	0.1	%	11.8	11.2	5.4	0% - 50%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3960149)									
EB2129205-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0006	0.0005	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EB2129319-003	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0005	0.0006	22.5	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0018	0.0030	47.7	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960149)									
EB2129205-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960149) - continued									
EB2129205-001	Anonymous	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2129319-003	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960149)									
EB2129205-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2129319-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3960149)									
EB2129205-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2129319-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3960756)									
EB2129262-034	0874_MW016_211012	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	264	248	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	25.1	22.4	11.3	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	33.0	33.0	0.1	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	339	346	2.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	27.7	28.6	3.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.50	0.0	No Limit
EB2129262-031	0874_MW139_211012	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	230	218	5.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	13.8	14.0	1.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	13.8	14.5	4.9	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	90.5	98.3	8.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	10.6	10.9	2.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.47	5.4	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3960757)									
EB2129262-002	0874_MW129_211011	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	27.3	24.2	11.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.32	3.29	0.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.62	2.59	1.1	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	13.7	11.8	15.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.01	0.94	6.6	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit
EB2129262-024	0874_MW120_211011	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	15.3	14.6	4.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.21	1.30	7.4	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3960757) - continued									
EB2129262-024	0874_MW120_211011	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.38	1.58	13.8	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	9.60	9.46	1.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.70	0.76	8.9	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3960758)									
EB2129262-040	0874_MW004_211012	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2129262-061	0874_MW218_211012	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.45	0.46	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.47	2.53	2.4	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3962776)									
EB2129262-075	0874_MW223_211013	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.87	7.52	9.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	0.21	5.5	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.19	0.20	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	1.56	1.52	2.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.09	0.10	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3962777)									
EB2129262-078	0874_MW063_211013	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	19.5	19.5	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.23	1.32	6.7	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.82	1.70	6.6	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	12.4	11.1	10.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.99	0.91	8.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3962778)									
EB2129262-081	0874_MW125_211013	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	307	368	17.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.67	3.79	3.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	5.95	5.50	7.9	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	79.8	73.3	8.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	4.09	3.60	12.7	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.10	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960756)									



Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960756) - continued									
EB2129262-034	0874_MW016_211012	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	17.8	18.3	2.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	13.5	12.8	5.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	69.6	67.6	2.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	8.53	8.45	0.9	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.24	<1.25	0.8	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	9.1	10.0	9.7	No Limit		
EB2129262-031	0874_MW139_211012	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	12.8	13.2	2.8	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	8.37	8.69	3.7	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	45.8	46.5	1.5	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	6.98	7.23	3.5	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<1.18	5.4	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	6.0	8.2	30.9	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960757)									
EB2129262-002	0874_MW129_211011	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	3.45	3.40	1.2	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	8.08	8.08	0.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	9.50	9.44	0.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.97	2.00	1.3	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.21	0.21	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	4.6	4.6	2.2	0% - 50%		
EB2129262-024	0874_MW120_211011	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.77	0.79	3.0	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.52	0.54	4.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.68	2.86	6.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.30	0.30	0.0	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960757) - continued									
EB2129262-024	0874_MW120_211011	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.4	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3960758)									
EB2129262-040	0874_MW004_211012	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2129262-061	0874_MW218_211012	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.37	0.33	11.2	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.03	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3962776)									
EB2129262-075	0874_MW223_211013	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.15	0.14	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.31	0.32	4.5	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.57	1.56	1.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.22	0.22	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.2	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3962777)									
EB2129262-078	0874_MW063_211013	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.92	0.91	0.0	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.72	0.70	3.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.50	3.59	2.4	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.50	0.51	0.0	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.6	0.6	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3962778)									
EB2129262-081	0874_MW125_211013	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.03	1.94	4.5	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.64	2.48	6.2	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	18.6	17.4	6.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.26	1.24	1.6	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.1	<1.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960756)									
EB2129262-034	0874_MW016_211012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.24	<1.25	0.8	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.24	<1.25	0.8	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.24	<1.25	0.8	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.24	<1.25	0.8	No Limit
EB2129262-031	0874_MW139_211012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.47	5.4	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960756) - continued									
EB2129262-031	0874_MW139_211012	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<1.18	5.4	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<1.18	5.4	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<1.18	5.4	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<1.18	5.4	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960757)									
EB2129262-002	0874_MW129_211011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EB2129262-024	0874_MW120_211011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960758)									
EB2129262-040	0874_MW004_211012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3960758) - continued									
EB2129262-040	0874_MW004_211012	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2129262-061	0874_MW218_211012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3962776)									
EB2129262-075	0874_MW223_211013	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.04	0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.09	<0.09	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.09	<0.09	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3962777)									
EB2129262-078	0874_MW063_211013	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3962777) - continued									
EB2129262-078	0874_MW063_211013	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.06	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.06	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3962778)									
EB2129262-081	0874_MW125_211013	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3960756)									
EB2129262-034	0874_MW016_211012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	1.19	0.70	51.8	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.50	0.0	No Limit
EB2129262-031	0874_MW139_211012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	5.83	6.52	11.1	0% - 50%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.47	5.4	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.47	5.4	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3960757)									
EB2129262-002	0874_MW129_211011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	0.09	0.07	24.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	14.1	14.0	1.1	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.28	0.22	22.3	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2129262-024	0874_MW120_211011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.09	0.09	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3960758)									
EB2129262-040	0874_MW004_211012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2129262-061	0874_MW218_211012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3962776)									
EB2129262-075	0874_MW223_211013	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3962776) - continued									
EB2129262-075	0874_MW223_211013	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3962777)									
EB2129262-078	0874_MW063_211013	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.17	0.16	6.6	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3962778)									
EB2129262-081	0874_MW125_211013	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.10	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3960756)									
EB2129262-034	0874_MW016_211012	EP231X: Sum of PFAS	----	0.01	µg/L	808	796	1.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	603	594	1.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	748	734	1.8	0% - 20%
EB2129262-031	0874_MW139_211012	EP231X: Sum of PFAS	----	0.01	µg/L	444	446	0.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	320	316	1.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	420	421	0.1	0% - 20%
EP231P: PFAS Sums (QC Lot: 3960757)									
EB2129262-002	0874_MW129_211011	EP231X: Sum of PFAS	----	0.01	µg/L	90.4	85.0	6.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	41.0	36.0	13.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	86.3	81.0	6.3	0% - 20%
EB2129262-024	0874_MW120_211011	EP231X: Sum of PFAS	----	0.01	µg/L	33.0	32.7	0.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	24.9	24.1	3.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	30.9	30.3	1.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 3960758)									
EB2129262-040	0874_MW004_211012	EP231X: Sum of PFAS	----	0.01	µg/L	0.16	0.16	0.0	0% - 50%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 3960758) - continued									
EB2129262-040	0874_MW004_211012	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.12	0.12	0.0	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	0.16	0.0	0% - 50%
EB2129262-061	0874_MW218_211012	EP231X: Sum of PFAS	----	0.01	µg/L	3.59	3.63	1.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.92	2.99	2.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.45	3.49	1.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 3962776)									
EB2129262-075	0874_MW223_211013	EP231X: Sum of PFAS	----	0.01	µg/L	11.5	12.0	4.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	8.43	9.04	7.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	11.2	11.7	4.5	0% - 20%
EP231P: PFAS Sums (QC Lot: 3962777)									
EB2129262-078	0874_MW063_211013	EP231X: Sum of PFAS	----	0.01	µg/L	42.4	41.0	3.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	31.9	30.6	4.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	39.5	38.4	3.0	0% - 20%
EP231P: PFAS Sums (QC Lot: 3962778)									
EB2129262-081	0874_MW125_211013	EP231X: Sum of PFAS	----	0.01	µg/L	425	477	11.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	387	441	13.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	415	468	12.0	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960149)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	83.2	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	87.6	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	89.0	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	89.5	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	81.9	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	91.7	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960149)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	85.6	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.4	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.0	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.2	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	89.2	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	92.9	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960149)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	92.5	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.4	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.4	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.0	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960149)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	90.6	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	103	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	92.5	65.0	137	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960149) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	77.1	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960756)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	118	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	101	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	114	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	118	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	141	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960757)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	113	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	124	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	110	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	120	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	101	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.9	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960758)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	117	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	110	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	130	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	142	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3961384)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	124	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	109	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	120	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	137	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3962776)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	110	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	99.2	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	113	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	107	65.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3962776) - continued									
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	109	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3962777)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	106	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	112	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	100	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	111	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	100	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	110	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3962778)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	109	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	114	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	99.0	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	99.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	103	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960756)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	105	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	111	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	126	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	117	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960757)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	105	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.0	65.0	144	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960757) - continued								
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	86.9	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960758)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	111	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	109	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3961384)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	129	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	122	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962776)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	105	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962777)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962777) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	99.7	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	98.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	104	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962778)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	103	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	110	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960756)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	114	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	127	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	119	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	112	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960757)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	102	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.8	60.5	138



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960757) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	106	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	122	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	125	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960758)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	114	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	124	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	118	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	110	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	127	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	109	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3961384)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	116	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	140	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	116	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	115	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	133	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	111	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3962776)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	100	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	114	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	100	68.3	134	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3962776) - continued									
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	102	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3962777)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	111	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	114	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	101	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	104	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	111	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3962778)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	115	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	120	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	116	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	108	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.0	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960756)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	122	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	112	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	105	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960757)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	140	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960757) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	64.3	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960758)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	115	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	136	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	112	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	91.1	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3961384)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	117	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	137	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	96.0	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	120	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3962776)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	107	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	124	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	108	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3962777)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	107	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	126	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	113	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3962778)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	118	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	117	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	110	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	95.0	64.2	133	
EP231P: PFAS Sums (QCLot: 3960756)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3960757)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 3960758)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 3960758) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3961384)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3962776)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3962777)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 3962778)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960149)							
EB2129205-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	103	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	103	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	86.4	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	83.2	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960149) - continued							
EB2129205-002	Anonymous	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	90.8	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960149)							
EB2129205-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	79.4	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	73.6	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	101	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	88.0	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	85.8	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	104	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	90.4	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	93.6	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	102	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	74.0	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	104	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960149)							
EB2129205-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	90.4	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	93.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	97.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	76.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	108	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	98.0	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	117	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960149)							
EB2129205-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	87.6	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	88.8	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	102	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960756)							
EB2129262-010	0874_MW126_211011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	107	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	99.6	71.0	127



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960756) - continued							
EB2129262-010	0874_MW126_211011	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	118	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	130	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960757)							
EB2129262-008	0874_MW250_211011	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	133	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	128	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3960758)							
EB2129262-062	0874_MW219_211012	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	109	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	125	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	112	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	132	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	115	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	114	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3962777)							
EB2129262-079	0874_MW224_211013	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	103	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	103	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	89.3	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	100	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	112	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	110	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960756)							
EB2129262-010	0874_MW126_211011	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	104	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	115	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	114	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	122	71.0	133



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Acceptable Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960756) - continued									
EB2129262-010	0874_MW126_211011	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	109	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	116	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	110	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	128	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960757)									
EB2129262-008	0874_MW250_211011	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	98.5	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	105	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	118	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	100	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	106	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	109	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	108	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	101	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3960758)									
EB2129262-062	0874_MW219_211012	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	111	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	109	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	117	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	112	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	111	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	118	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	122	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	115	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	120	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	113	71.0	132		
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962777)							
		EB2129262-079	0874_MW224_211013	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	91.3	73.0	129
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	99.0	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.25 µg/L	102	72.0	129		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.25 µg/L	93.9	72.0	130		
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.25 µg/L	94.8	71.0	133		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.25 µg/L	83.2	69.0	130		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3962777) - continued							
EB2129262-079	0874_MW224_211013	EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.0	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	97.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.4	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	101	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	102	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960756)							
EB2129262-010	0874_MW126_211011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	116	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	130	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	114	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	113	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	111	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	110	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960757)							
EB2129262-008	0874_MW250_211011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	103	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	98.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	95.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	97.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	113	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	119	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960758)							
EB2129262-062	0874_MW219_211012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	111	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	124	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	113	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3960758) - continued							
EB2129262-062	0874_MW219_211012	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	123	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	116	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3962777)							
EB2129262-079	0874_MW224_211013	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	104	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	95.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	110	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	106	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960756)							
EB2129262-010	0874_MW126_211011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	113	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	135	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	115	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	94.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960757)							
EB2129262-008	0874_MW250_211011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	117	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	115	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	111	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	105	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3960758)							
EB2129262-062	0874_MW219_211012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	116	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	139	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	126	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	97.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3962777)							
EB2129262-079	0874_MW224_211013	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.4	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	96.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138

Page : 29 of 29
 Work Order : EB2129262
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3962777) - continued							
EB2129262-079	0874_MW224_211013	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	95.6	70.0	130



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2129262

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]

Laboratory : Environmental Division Brisbane
Contact : [Redacted]
Address : [Redacted]

E-mail : [Redacted]
Telephone : ---
Facsimile : ---

E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 5
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 28576
Site : QLD_0874
Sampler : [Redacted]

QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 15-Oct-2021 08:50
Client Requested Due Date : 21-Oct-2021

Issue Date : 18-Oct-2021
Scheduled Reporting Date : 22-Oct-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 2
Receipt Detail : Hard Esky

Security Seal : Intact.
Temperature : 3.1°C, 2.4°C - Ice present
No. of samples received / analysed : 98 / 98

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
18/10/21: SRN has been resent to acknowledge the addition of PFAS analysis to sample #92. For any further information regarding these adjustments please contact client services at [Redacted]
*Samples were originally received by ALS Townsville on 14/10/2021 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2129262-018	11-Oct-2021 13:35	0874_SD106_211011	✓	✓
EB2129262-019	11-Oct-2021 13:36	0874_QC110_211011	✓	✓
EB2129262-020	11-Oct-2021 13:50	0874_SD209_211011	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2129262-001	11-Oct-2021 07:51	0874_MW013_211011	✓
EB2129262-002	11-Oct-2021 08:04	0874_MW129_211011	✓
EB2129262-003	11-Oct-2021 08:18	0874_MW118_211011	✓
EB2129262-004	11-Oct-2021 08:32	0874_MW140_211011	✓
EB2129262-005	11-Oct-2021 08:59	0874_MW142_211011	✓
EB2129262-006	11-Oct-2021 09:00	0874_QC108_211011	✓
EB2129262-007	11-Oct-2021 09:18	0874_MW251_211011	✓
EB2129262-008	11-Oct-2021 09:32	0874_MW250_211011	✓
EB2129262-009	11-Oct-2021 10:02	0874_MW116_211011	✓
EB2129262-010	11-Oct-2021 10:16	0874_MW126_211011	✓
EB2129262-011	11-Oct-2021 10:39	0874_MW034_211011	✓
EB2129262-012	11-Oct-2021 10:52	0874_MW033_211011	✓
EB2129262-013	11-Oct-2021 11:26	0874_MW247_211011	✓
EB2129262-014	11-Oct-2021 11:41	0874_MW248_211011	✓
EB2129262-015	11-Oct-2021 11:55	0874_MW043_211011	✓
EB2129262-016	11-Oct-2021 11:56	0874_QC109_211011	✓
EB2129262-017	11-Oct-2021 12:24	0874_MW038_211011	✓
EB2129262-021	11-Oct-2021 14:20	0874_MW264_211011	✓
EB2129262-022	11-Oct-2021 14:21	0874_QC111_211011	✓
EB2129262-023	11-Oct-2021 14:41	0874_MW263_211011	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

EB2129262-024	11-Oct-2021 15:37	0874_MW120_211011	✓
EB2129262-025	11-Oct-2021 15:45	0874_MW232_211011	✓
EB2129262-026	11-Oct-2021 15:54	0874_QC502_211011	✓
EB2129262-027	11-Oct-2021 16:21	0874_MW090_211011	✓
EB2129262-028	11-Oct-2021 16:32	0874_MW046_211011	✓
EB2129262-029	11-Oct-2021 16:41	0874_MW081_211011	✓
EB2129262-030	11-Oct-2021 16:47	0874_QC303_211011	✓
EB2129262-031	12-Oct-2021 08:22	0874_MW139_211012	✓
EB2129262-032	12-Oct-2021 08:34	0874_MW138_211012	✓
EB2129262-033	12-Oct-2021 09:00	0874_MW015_211012	✓
EB2129262-034	12-Oct-2021 09:11	0874_MW016_211012	✓
EB2129262-035	12-Oct-2021 09:24	0874_MW021_211012	✓
EB2129262-036	12-Oct-2021 10:14	0874_MW136_211012	✓
EB2129262-037	12-Oct-2021 10:26	0874_MW265_211012	✓
EB2129262-038	12-Oct-2021 10:41	0874_MW242_211012	✓
EB2129262-039	12-Oct-2021 10:55	0874_MW241_211012	✓
EB2129262-040	12-Oct-2021 11:07	0874_MW004_211012	✓
EB2129262-041	12-Oct-2021 11:20	0874_MW122_211012	✓
EB2129262-042	12-Oct-2021 11:33	0874_MW002_211012	✓
EB2129262-043	12-Oct-2021 11:54	0874_MW135_211012	✓
EB2129262-044	12-Oct-2021 12:06	0874_MW056_211012	✓
EB2129262-045	12-Oct-2021 12:22	0874_MW057_211012	✓
EB2129262-046	12-Oct-2021 12:26	0874_QC304_211012	✓
EB2129262-047	12-Oct-2021 09:30	0874_MW207_211012	✓
EB2129262-048	12-Oct-2021 16:30	0874_QC305_211012	✓
EB2129262-049	12-Oct-2021 13:35	0874_MW213_211012	✓
EB2129262-050	12-Oct-2021 14:50	0874_MW215_211012	✓
EB2129262-051	12-Oct-2021 10:00	0874_MW208_211012	✓
EB2129262-052	12-Oct-2021 15:25	0874_MW216_211012	✓
EB2129262-053	12-Oct-2021 08:30	0874_MW205_211012	✓
EB2129262-054	12-Oct-2021 12:40	0874_MW212_211012	✓
EB2129262-055	12-Oct-2021 10:30	0874_MW233_211012	✓
EB2129262-056	12-Oct-2021 09:00	0874_MW206_211012	✓
EB2129262-057	12-Oct-2021 14:05	0874_MW214_211012	✓
EB2129262-058	12-Oct-2021 10:55	0874_MW252_211012	✓
EB2129262-059	12-Oct-2021 11:20	0874_MW253_211012	✓
EB2129262-060	12-Oct-2021 11:45	0874_MW301_211012	✓
EB2129262-061	12-Oct-2021 16:00	0874_MW218_211012	✓
EB2129262-062	12-Oct-2021 16:20	0874_MW219_211012	✓
EB2129262-063	13-Oct-2021 09:52	0874_MW110_211013	✓
EB2129262-064	13-Oct-2021 09:53	0874_QC114_211013	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

EB2129262-065	13-Oct-2021 10:01	0874_MW109_211013	✓
EB2129262-066	13-Oct-2021 10:12	0874_MW055_211013	✓
EB2129262-067	13-Oct-2021 10:20	0874_MW054_211013	✓
EB2129262-068	13-Oct-2021 10:46	0874_QC115_211013	✓
EB2129262-069	13-Oct-2021 10:40	0874_MW245_211013	✓
EB2129262-070	13-Oct-2021 11:08	0874_MW246_211013	✓
EB2129262-071	13-Oct-2021 13:24	0874_QC112_211013	✓
EB2129262-072	13-Oct-2021 13:26	0874_MW227_211013	✓
EB2129262-073	13-Oct-2021 13:37	0874_MW226_211013	✓
EB2129262-074	13-Oct-2021 13:49	0874_MW229_211013	✓
EB2129262-075	13-Oct-2021 14:11	0874_MW223_211013	✓
EB2129262-076	13-Oct-2021 14:24	0874_MW026_211013	✓
EB2129262-077	13-Oct-2021 14:25	0874_QC113_211013	✓
EB2129262-078	13-Oct-2021 14:38	0874_MW063_211013	✓
EB2129262-079	13-Oct-2021 14:49	0874_MW224_211013	✓
EB2129262-080	13-Oct-2021 15:01	0874_MW061_211013	✓
EB2129262-081	13-Oct-2021 15:10	0874_MW125_211013	✓
EB2129262-082	13-Oct-2021 15:17	0874_MW114_211013	✓
EB2129262-083	13-Oct-2021 15:30	0874_MW112_211013	✓
EB2129262-084	13-Oct-2021 15:47	0874_MW009_211013	✓
EB2129262-085	13-Oct-2021 15:47	0874_QC116_211013	✓
EB2129262-086	13-Oct-2021 15:54	0874_QC306_211013	✓
EB2129262-087	13-Oct-2021 15:54	0874_QC307_211013	✓
EB2129262-088	13-Oct-2021 10:00	0874_MW211_211013	✓
EB2129262-089	13-Oct-2021 10:20	0874_MW471_211013	✓
EB2129262-090	14-Oct-2021 08:58	0874_MW217_211014	✓
EB2129262-091	14-Oct-2021 09:19	0874_MW221_211014	✓
EB2129262-092	14-Oct-2021 09:20	0874_QC117_211014	✓
EB2129262-093	14-Oct-2021 09:42	0874_MW225_211014	✓
EB2129262-094	14-Oct-2021 10:02	0874_MW005_211014	✓
EB2129262-095	14-Oct-2021 10:23	0874_MW243_211014	✓
EB2129262-096	14-Oct-2021 11:05	0874_MW467_211014	✓
EB2129262-097	14-Oct-2021 11:17	0874_QC308_211014	✓
EB2129262-098	14-Oct-2021 14:21	0874_MW470_211014	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : EB2129530
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28849
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 5
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 20-Oct-2021 08:30
Date Analysis Commenced : 21-Oct-2021
Issue Date : 25-Oct-2021 14:55



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], Assistant Laboratory Manager, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC503_211016	0874_MW244_211016	0874_QC309_211016	----	----
Sampling date / time				16-Oct-2021 11:28	16-Oct-2021 12:59	16-Oct-2021 13:00	----	----	
Compound	CAS Number	LOR	Unit	EB2129530-001	EB2129530-002	EB2129530-003	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.60	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.41	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	2.24	<0.02	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.14	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	3.05	<0.01	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.2	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.24	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	1.06	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.06	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.11	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC503_211016	0874_MW244_211016	0874_QC309_211016	----	----
Sampling date / time				16-Oct-2021 11:28	16-Oct-2021 12:59	16-Oct-2021 13:00	----	----	
Compound	CAS Number	LOR	Unit	EB2129530-001	EB2129530-002	EB2129530-003	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.07	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	8.18	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	5.29	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	7.63	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	104	108	----	----	
13C8-PFOA	----	0.02	%	100	105	102	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2129530	Page	: 1 of 4
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 20-Oct-2021
Site	: QLD_0874	Issue Date	: 25-Oct-2021
Sampler	: [REDACTED]	No. of samples received	: 3
Order number	: 60612487_2.1	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_211016, 0874_QC309_211016	0874_MW244_211016,	16-Oct-2021	21-Oct-2021	14-Apr-2022	✓	22-Oct-2021	14-Apr-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_211016, 0874_QC309_211016	0874_MW244_211016,	16-Oct-2021	21-Oct-2021	14-Apr-2022	✓	22-Oct-2021	14-Apr-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_QC503_211016, 0874_QC309_211016	0874_MW244_211016,	16-Oct-2021	21-Oct-2021	14-Apr-2022	✓	22-Oct-2021	14-Apr-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC503_211016, 0874_QC309_211016	0874_MW244_211016,	16-Oct-2021	21-Oct-2021	14-Apr-2022	✓	22-Oct-2021	14-Apr-2022	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_QC503_211016, 0874_QC309_211016	0874_MW244_211016,	16-Oct-2021	21-Oct-2021	14-Apr-2022	✓	22-Oct-2021	14-Apr-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	3	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



QUALITY CONTROL REPORT

Work Order : EB2129530
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 28849
Sampler :
Site : QLD_0874
Quote number : TV/007/21 - Compass
No. of samples received : 3
No. of samples analysed : 3

Page : 1 of 5
Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 20-Oct-2021
Date Analysis Commenced : 21-Oct-2021
Issue Date : 25-Oct-2021



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], Assistant Laboratory Manager, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 3966176)									
EB2129530-002	0874_MW244_211016	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.05	3.28	7.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.60	0.58	2.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.41	0.40	2.6	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	2.24	2.23	0.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.14	0.14	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 3966176)									
EB2129530-002	0874_MW244_211016	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.10	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.24	0.24	0.0	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.06	1.11	3.9	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.0	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3966176)							
EB2129530-002	0874_MW244_211016	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 3966176) - continued									
EB2129530-002	0874_MW244_211016	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 3966176)									
EB2129530-002	0874_MW244_211016	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.07	0.07	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 3966176)									
EB2129530-002	0874_MW244_211016	EP231X: Sum of PFAS	----	0.01	µg/L	8.18	8.41	2.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.29	5.51	4.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	7.63	7.87	3.1	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 3966176)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	117	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	0.2373 µg/L	113	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	129	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	117	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	97.5	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 3966176)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	120	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	112	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	105	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	79.9	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 3966176)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	115	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	121	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	106	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	114	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	119	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	118	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3966176)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	113	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	127	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	128	67.0	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 3966176) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	69.1	64.2	133
EP231P: PFAS Sums (QCLot: 3966176)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2129530

Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :

Laboratory : Environmental Division Brisbane
Contact :
Address :

E-mail :
Telephone :
Facsimile :

E-mail :
Telephone :
Facsimile :

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

C-O-C number : 28849
Site : QLD_0874
Sampler :

Dates

Date Samples Received : 20-Oct-2021 08:30
Client Requested Due Date : 26-Oct-2021

Issue Date : 20-Oct-2021
Scheduled Reporting Date : 26-Oct-2021

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : Medium Esky

Security Seal : Intact.
Temperature : 9.6°C - Ice present
No. of samples received / analysed : 3 / 3

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
*Samples were originally received by ALS Townsville on the 18/10/2021 at 1710, and forwarded to ALS Brisbane for analysis.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2129530-001	16-Oct-2021 11:28	0874_QC503_211016	✓
EB2129530-002	16-Oct-2021 12:59	0874_MW244_211016	✓
EB2129530-003	16-Oct-2021 13:00	0874_QC309_211016	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/211012
	Quote No. : QT-02018
	Order No. : 60612487-2-1
	Date Received : 12-OCT-2021
Attention : [REDACTED]	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/022913	0874_QC201_210928	SOIL 28.9.21 0740
N21/022915	0874_QC203_211006	SOIL 6.10.21 1100
N21/022917	0874_QC205_211006	SOIL 6.10.21 1410
N21/022919	0874_QC207_211007	SOIL 7.10.21 1130

Lab Reg No.		N21/022913	N21/022915	N21/022917	N21/022919	
Date Sampled		28-SEP-2021	06-OCT-2021	06-OCT-2021	07-OCT-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFPeA (2706-90-3)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxA (307-24-4)	mg/kg	<0.001	<0.001	<0.001	0.0015	NR70
PFHpA (375-85-9)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOA (335-67-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFNA (375-95-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFDA (335-76-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFUdA (2058-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFDaA (307-55-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTeDA (376-06-7)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFODA (16517-11-6)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
FOUEA (70887-84-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFBS (375-73-5)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFPeS (2706-91-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFHxS (355-46-4)	mg/kg	<0.001	<0.001	<0.001	0.0057	NR70
PFHpS (375-92-8)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOS (1763-23-1)	mg/kg	0.0034	0.0022	0.0057	0.13	NR70
PFNS (68259-12-1)	mg/kg	<0.001	<0.001	<0.001	0.0013	NR70
PFDS (335-77-3)	mg/kg	<0.001	<0.001	<0.001	0.0026	NR70
PFOSA (754-91-6)	mg/kg	<0.001	<0.001	<0.001	0.0035	NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70

REPORT OF ANALYSIS

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Lab Reg No.		N21/022913	N21/022915	N21/022917	N21/022919	
Date Sampled		28-SEP-2021	06-OCT-2021	06-OCT-2021	07-OCT-2021	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
8:2 FTS (39108-34-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFBA (Surrogate Recovery)	%	106	112	106	114	NR70
PFPeA (Surrogate Recovery)	%	101	110	100	110	NR70
PFHxA (Surrogate Recovery)	%	102	112	118	114	NR70
PFHpA (Surrogate Recovery)	%	119	120	112	114	NR70
PFOA (Surrogate Recovery)	%	111	114	119	120	NR70
PFNA (Surrogate Recovery)	%	97	100	105	100	NR70
PFDA (Surrogate Recovery)	%	103	118	112	111	NR70
PFUdA (Surrogate Recovery)	%	105	110	117	118	NR70
PFDoA (Surrogate Recovery)	%	102	108	106	103	NR70
PFTeDA (Surrogate Recovery)	%	115	109	122	117	NR70
PFHxDA (Surrogate Recovery)	%	113	119	117	116	NR70
FOUEA (Surrogate Recovery)	%	58	72	71	77	NR70
PFBS (Surrogate Recovery)	%	96	104	109	109	NR70
PFHxS (Surrogate Recovery)	%	114	113	123	114	NR70
PFOS (Surrogate Recovery)	%	112	114	115	108	NR70
PFOSA (Surrogate Recovery)	%	103	106	103	101	NR70
N-MeFOSA (Surrogate Recovery)	%	110	108	112	97	NR70
N-EtFOSA (Surrogate Recovery)	%	112	116	113	116	NR70
N-MeFOSAA (Surrogate Recovery)	%	91	97	95	91	NR70
N-EtFOSAA (Surrogate Recovery)	%	99	116	106	111	NR70
N-MeFOSE (Surrogate Recovery)	%	116	86	104	100	NR70
N-EtFOSE (Surrogate Recovery)	%	108	95	96	109	NR70
4:2 FTS (Surrogate Recovery)	%	64	75	60	87	NR70
6:2 FTS (Surrogate Recovery)	%	84	84	79	90	NR70
8:2 FTS (Surrogate Recovery)	%	88	98	93	98	NR70
8:2 diPAP (Surrogate Recovery)	%	150	178	175	182	NR70
Dates						
Date extracted		14-OCT-2021	14-OCT-2021	14-OCT-2021	14-OCT-2021	
Date analysed		14-OCT-2021	14-OCT-2021	14-OCT-2021	14-OCT-2021	

N21/022913
to
N21/022919

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

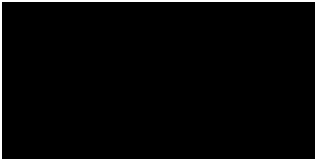
Selected PFAS surrogate recoveries are biased due to matrix effects. δ
High PFAS surrogate recoveries accepted - results corrected for recovery.



Organics - NSW
Accreditation No. 198

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Lab Reg No.		N21/022913	N21/022915	N21/022917	N21/022919	
Date Sampled		28-SEP-2021	06-OCT-2021	06-OCT-2021	07-OCT-2021	
	Units					Method
Trace Elements						
Total Solids	%	61.2	61.6	66.1	74.9	NT2_49
Dates						
Date extracted		14-OCT-2021	14-OCT-2021	14-OCT-2021	14-OCT-2021	
Date analysed		15-OCT-2021	15-OCT-2021	15-OCT-2021	15-OCT-2021	



Inorganics - NSW
Accreditation No. 198

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All results are expressed on a dry weight basis.

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/211012 Quote No. : QT-02018 Order No. : 60612487-2-1 Date Received : 12-OCT-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/022912	0874_QC200_210928	WATER 28.9.21 0730
N21/022914	0874_QC202_211006	WATER 6.10.21 1100
N21/022916	0874_QC204_211006	WATER 6.10.21 1410
N21/022918	0874_QC206_211007	WATER 7.10.21 1130

Lab Reg No.	Date Sampled	Units	N21/022912	N21/022914	N21/022916	N21/022918	Method
			28-SEP-2021	06-OCT-2021	06-OCT-2021	07-OCT-2021	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		<0.05	<0.05	<0.05	0.39	NR70
PFPeA (2706-90-3)	ug/L		<0.02	<0.02	<0.02	0.65	NR70
PFHxA (307-24-4)	ug/L		<0.01	<0.01	0.066	2.0	NR70
PFHpA (375-85-9)	ug/L		<0.01	<0.01	0.010	0.27	NR70
PFOA (335-67-1)	ug/L		<0.01	<0.01	0.023	0.61	NR70
PFNA (375-95-1)	ug/L		<0.01	<0.01	<0.01	0.063	NR70
PFDA (335-76-2)	ug/L		<0.01	<0.01	<0.01	0.027	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	0.018	NR70
PFPeS (2706-91-4)	ug/L		<0.01	<0.01	0.027	0.88	NR70
PFHxS (355-46-4)	ug/L		0.017	0.017	0.18	6.9	NR70
PFHpS (375-92-8)	ug/L		<0.01	<0.01	<0.01	0.62	NR70
PFOS (1763-23-1)	ug/L		<0.02	0.023	0.34	31	NR70
PFNS (68259-12-1)	ug/L		<0.01	<0.01	<0.01	0.084	NR70
PFBS (375-73-5)	ug/L		<0.01	<0.01	0.030	0.94	NR70
PFOSA (754-91-6)	ug/L		<0.01	<0.01	<0.01	0.064	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.			N21/022912	N21/022914	N21/022916	N21/022918	
Date Sampled			28-SEP-2021	06-OCT-2021	06-OCT-2021	07-OCT-2021	
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	0.73	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	0.076	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	110	109	110	118		NR70
PFPeA (Surrogate Recovery)	%	99	96	111	79		NR70
PFHxA (Surrogate Recovery)	%	99	95	112	89		NR70
PFHpA (Surrogate Recovery)	%	99	109	117	100		NR70
PFOA (Surrogate Recovery)	%	97	106	113	101		NR70
PFNA (Surrogate Recovery)	%	83	84	89	53		NR70
PFDA (Surrogate Recovery)	%	72	77	78	101		NR70
PFUdA (Surrogate Recovery)	%	65	72	70	94		NR70
PFDoA (Surrogate Recovery)	%	69	66	74	79		NR70
PFTeDA (Surrogate Recovery)	%	83	78	83	79		NR70
PFHxDA (Surrogate Recovery)	%	87	85	99	88		NR70
FOUEA (Surrogate Recovery)	%	64	72	87	92		NR70
PFBS (Surrogate Recovery)	%	97	101	111	105		NR70
PFHxS (Surrogate Recovery)	%	104	108	115	87		NR70
PFOS (Surrogate Recovery)	%	71	89	82	88		NR70
PFOSA (Surrogate Recovery)	%	60	60	64	66		NR70
N-MeFOSA (Surrogate Recovery)	%	57	44	62	58		NR70
N-EtFOSA (Surrogate Recovery)	%	58	48	59	64		NR70
N-MeFOSAA (Surrogate Recovery)	%	59	62	61	79		NR70
N-EtFOSAA (Surrogate Recovery)	%	67	70	68	92		NR70
N-MeFOSE (Surrogate Recovery)	%	47	46	73	65		NR70
N-EtFOSE (Surrogate Recovery)	%	70	60	63	71		NR70
4:2 FTS (Surrogate Recovery)	%	61	69	70	144		NR70
6:2 FTS (Surrogate Recovery)	%	60	64	73	111		NR70
8:2 FTS (Surrogate Recovery)	%	51	50	51	66		NR70
8:2 diPAP (Surrogate Recovery)	%	108	88	104	106		NR70
Dates							
Date extracted		18-OCT-2021	18-OCT-2021	18-OCT-2021	18-OCT-2021		
Date analysed		19-OCT-2021	19-OCT-2021	19-OCT-2021	19-OCT-2021		

N21/022912
to
N21/022918

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.

Organics - NSW
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19-OCT-2021



Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1331472*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/211012

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries		
				Sample	Duplicate	RPD	LCS	Matrix Spike	
		ug/L	ug/L	ug/L	ug/L	%	%	%	
				N21/022912				N21/022912	
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	92	88	
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	96	103	
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	94	93	
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	92	92	
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	94	93	
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	88	92	
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	87	96	
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	97	104	
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	89	99	
PFTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	85	105	
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	94	100	
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	87	98	
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	98	115	
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	104	96	
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	94	94	
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	95	98	
PFHxS (355-46-4)	NR70	0.01	<0.01	0.017	0.017	0	96	91	
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	94	87	
PFOS (1763-23-1)	NR70	0.02	<0.02	<0.02	<0.02	-	95	89	
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	94	88	
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	94	92	
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	91	101	
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	105	108	
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	99	110	
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	93	98	
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	96	97	
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	90	88	
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	90	110	
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	107	88	
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	101	104	
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	107	99	
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	118	124	
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	102	103	

Results expressed in percentage (%) or ug/L wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
19/10/2021

Date:



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/211012

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample mg/kg	Duplicate mg/kg	RPD %	LCS %	Matrix Spike %
		mg/kg	mg/kg					
				N21/022919				N21/022919
PFBA (375-22-4)	NR70	0.002	<0.002	<0.002	<0.002	-	90	89
PFPeA (2706-90-3)	NR70	0.002	<0.002	<0.002	<0.002	-	102	96
PFHxA (307-24-4)	NR70	0.001	<0.001	0.0015	0.0013	14	106	87
PFHpA (375-85-9)	NR70	0.001	<0.001	<0.001	<0.001	-	88	97
PFOA (335-67-1)	NR70	0.001	<0.001	<0.001	<0.001	-	101	99
PFNA (375-95-1)	NR70	0.001	<0.001	<0.001	<0.001	-	108	108
PFDA (335-76-2)	NR70	0.001	<0.001	<0.001	<0.001	-	110	98
PFUdA (2058-94-8)	NR70	0.002	<0.002	<0.002	<0.002	-	96	93
PFDoA (307-55-1)	NR70	0.002	<0.002	<0.002	<0.002	-	102	107
PFTrDA (72629-94-8)	NR70	0.002	<0.002	<0.002	<0.002	-	123	98
PFTeDA (376-06-7)	NR70	0.002	<0.002	<0.002	<0.002	-	106	115
PFHxDA (67905-19-5)	NR70	0.002	<0.002	<0.002	<0.002	-	98	95
PFODA (16517-11-6)	NR70	0.005	<0.005	<0.005	<0.005	-	102	103
FOUEA (70887-84-2)	NR70	0.001	<0.001	<0.001	<0.001	-	112	100
PFBS (375-73-5)	NR70	0.001	<0.001	<0.001	<0.001	-	102	105
PFPeS (2706-91-4)	NR70	0.001	<0.001	<0.001	<0.001	-	108	105
PFHxS (355-46-4)	NR70	0.001	<0.001	0.0057	0.0069	19	102	91
PFHpS (375-92-8)	NR70	0.001	<0.001	<0.001	0.001	-	99	100
PFOS (1763-23-1)	NR70	0.002	<0.002	0.13	0.14	7.0	124	-96
PFNS (68259-12-1)	NR70	0.001	<0.001	0.0013	0.0015	14	106	96
PFDS (335-77-3)	NR70	0.001	<0.001	0.0026	0.0027	4.0	101	98
PFOSA (754-91-6)	NR70	0.001	<0.001	0.0035	0.004	13	98	93
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	<0.002	<0.002	-	98	111
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	<0.002	<0.002	-	108	94
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	<0.002	<0.002	-	103	98
N-EtFOSAA (2991-50-6)	NR70	0.002	<0.002	<0.002	<0.002	-	104	103
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	<0.005	<0.005	-	94	100
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	<0.005	<0.005	-	85	106
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	<0.001	<0.001	-	97	101
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	<0.001	<0.001	-	108	106
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	<0.001	<0.001	-	112	107
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	<0.002	<0.002	-	103	104
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	<0.002	<0.002	-	104	103

Results expressed in percentage (%) or mg/kg wherever appropriate.

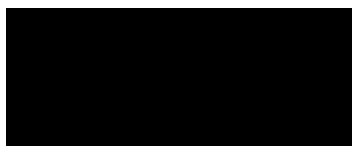
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
19/10/2021

Date:



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/211012

Total No. of Samples: 8

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/022912	19-OCT-2021	0874_QC200_210928	WATER 28.9.21 0730
N21/022913	19-OCT-2021	0874_QC201_210928	SOIL 28.9.21 0740
N21/022914	19-OCT-2021	0874_QC202_211006	WATER 6.10.21 1100
N21/022915	19-OCT-2021	0874_QC203_211006	SOIL 6.10.21 1100
N21/022916	19-OCT-2021	0874_QC204_211006	WATER 6.10.21 1410
N21/022917	19-OCT-2021	0874_QC205_211006	SOIL 6.10.21 1410
N21/022918	19-OCT-2021	0874_QC206_211007	WATER 7.10.21 1130
N21/022919	19-OCT-2021	0874_QC207_211007	SOIL 7.10.21 1130

SAMPLE RECEIVED CONDITION

Date samples received: 12-OCT-2021

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487-2-1

Temperature of samples: Chilled

Comments: ALL OK

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/211020
Attention : [REDACTED]	Quote No. : QT-02018
Project Name : QLD_0874_PFASOMP	Order No. : 60612487_2_1
Your Client Services Manager : [REDACTED]	Date Received : 20-OCT-2021
	Sampled By : CLIENT
	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N21/023536	0874_QC210_211011	SOIL 11.10.21 1330

Lab Reg No.	Units	N21/023536	Method
Date Sampled		11-OCT-2021	
PFAS (per-and poly-fluoroalkyl substances)			
PFBA (375-22-4)	mg/kg	<0.002	NR70
PFPeA (2706-90-3)	mg/kg	<0.002	NR70
PFHxA (307-24-4)	mg/kg	<0.001	NR70
PFHpA (375-85-9)	mg/kg	<0.001	NR70
PFOA (335-67-1)	mg/kg	<0.001	NR70
PFNA (375-95-1)	mg/kg	<0.001	NR70
PFDA (335-76-2)	mg/kg	<0.001	NR70
PFUdA (2058-94-8)	mg/kg	<0.002	NR70
PFDoA (307-55-1)	mg/kg	<0.002	NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	NR70
PFTeDA (376-06-7)	mg/kg	<0.002	NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	NR70
PFODA (16517-11-6)	mg/kg	<0.005	NR70
FOUEA (70887-84-2)	mg/kg	<0.001	NR70
PFBS (375-73-5)	mg/kg	<0.001	NR70
PFPeS (2706-91-4)	mg/kg	<0.001	NR70
PFHxS (355-46-4)	mg/kg	0.0019	NR70
PFHpS (375-92-8)	mg/kg	<0.001	NR70
PFOS (1763-23-1)	mg/kg	0.035	NR70
PFNS (68259-12-1)	mg/kg	<0.001	NR70
PFDS (335-77-3)	mg/kg	<0.001	NR70
PFOSA (754-91-6)	mg/kg	<0.001	NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005	NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001	NR70

REPORT OF ANALYSIS

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Lab Reg No.		N21/023536				
Date Sampled		11-OCT-2021				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	mg/kg	<0.001				NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002				NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002				NR70
PFBA (Surrogate Recovery)	%	103				NR70
PFPeA (Surrogate Recovery)	%	97				NR70
PFHxA (Surrogate Recovery)	%	93				NR70
PFHpA (Surrogate Recovery)	%	106				NR70
PFOA (Surrogate Recovery)	%	106				NR70
PFNA (Surrogate Recovery)	%	98				NR70
PFDA (Surrogate Recovery)	%	103				NR70
PFUdA (Surrogate Recovery)	%	106				NR70
PFDoA (Surrogate Recovery)	%	102				NR70
PFTeDA (Surrogate Recovery)	%	101				NR70
PFHxDA (Surrogate Recovery)	%	87				NR70
FOUEA (Surrogate Recovery)	%	84				NR70
PFBS (Surrogate Recovery)	%	97				NR70
PFHxS (Surrogate Recovery)	%	106				NR70
PFOS (Surrogate Recovery)	%	105				NR70
PFOSA (Surrogate Recovery)	%	91				NR70
N-MeFOSA (Surrogate Recovery)	%	86				NR70
N-EtFOSA (Surrogate Recovery)	%	97				NR70
N-MeFOSAA (Surrogate Recovery)	%	97				NR70
N-EtFOSAA (Surrogate Recovery)	%	113				NR70
N-MeFOSE (Surrogate Recovery)	%	103				NR70
N-EtFOSE (Surrogate Recovery)	%	90				NR70
4:2 FTS (Surrogate Recovery)	%	61				NR70
6:2 FTS (Surrogate Recovery)	%	71				NR70
8:2 FTS (Surrogate Recovery)	%	94				NR70
8:2 diPAP (Surrogate Recovery)	%	112				NR70
Dates						
Date extracted		25-OCT-2021				
Date analysed		25-JAN-2021				

N21/023536

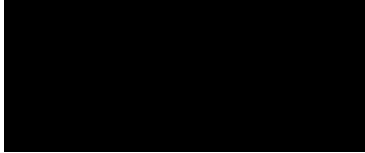
PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.

All results corrected for labelled surrogate recoveries.

REPORT OF ANALYSIS

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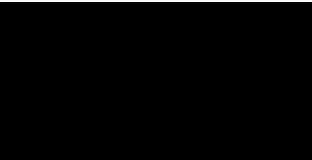
Lab Reg No.		N21/023536				
Date Sampled		11-OCT-2021				
	Units					



Organics - NSW
Accreditation No. 198

29-OCT-2021

Lab Reg No.		N21/023536				
Date Sampled		11-OCT-2021				
	Units					
Trace Elements						
Total Solids	%	89.5				NT2_49
Dates						
Date extracted		22-OCT-2021				
Date analysed		25-OCT-2021				



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All results are expressed on a dry weight basis.

REPORT OF ANALYSIS

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Report No. RN1332669

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/211020 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 20-OCT-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/023534	0874_QC208_211011	WATER 11.10.21 0850
N21/023535	0874_QC209_211011	WATER 11.10.21 1150
N21/023537	0874_QC211_211011	WATER 11.10.21 1415
N21/023538	0874_QC212_211013	WATER 13.10.21 1330

Lab Reg No.	Date Sampled	Units	N21/023534	N21/023535	N21/023537	N21/023538	Method
			11-OCT-2021	11-OCT-2021	11-OCT-2021	13-OCT-2021	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		<0.05	0.75	0.14	<0.05	NR70
PFPeA (2706-90-3)	ug/L		0.023	1.3	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L		0.037	8.0	<0.01	<0.01	NR70
PFHpA (375-85-9)	ug/L		<0.01	0.90	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L		<0.01	3.4	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L		<0.01	0.065	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	0.011	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		<0.01	2.0	0.11	<0.01	NR70
PFHxS (355-46-4)	ug/L		0.092	42	0.61	<0.01	NR70
PFHpS (375-92-8)	ug/L		<0.01	1.7	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L		0.18	82	0.045	<0.02	NR70
PFNS (68259-12-1)	ug/L		<0.01	0.071	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L		<0.01	1.6	0.19	<0.01	NR70
PFOSA (754-91-6)	ug/L		<0.01	0.048	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Lab Reg No.			N21/023534	N21/023535	N21/023537	N21/023538	
Date Sampled			11-OCT-2021	11-OCT-2021	11-OCT-2021	13-OCT-2021	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.018	0.11	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	104	93	98	105	105	NR70
PFPeA (Surrogate Recovery)	%	98	93	85	109	109	NR70
PFHxA (Surrogate Recovery)	%	100	79	84	115	115	NR70
PFHpA (Surrogate Recovery)	%	103	94	92	116	116	NR70
PFOA (Surrogate Recovery)	%	107	88	93	109	109	NR70
PFNA (Surrogate Recovery)	%	101	29	81	110	110	NR70
PFDA (Surrogate Recovery)	%	88	95	72	108	108	NR70
PFUdA (Surrogate Recovery)	%	99	82	66	112	112	NR70
PFDoA (Surrogate Recovery)	%	93	78	61	108	108	NR70
PFTeDA (Surrogate Recovery)	%	114	95	68	114	114	NR70
PFHxDA (Surrogate Recovery)	%	98	117	76	105	105	NR70
FOUEA (Surrogate Recovery)	%	88	122	70	92	92	NR70
PFBS (Surrogate Recovery)	%	104	115	90	110	110	NR70
PFHxS (Surrogate Recovery)	%	101	51	84	108	108	NR70
PFOS (Surrogate Recovery)	%	96	83	79	100	100	NR70
PFOSA (Surrogate Recovery)	%	77	73	48	96	96	NR70
N-MeFOSA (Surrogate Recovery)	%	74	81	43	87	87	NR70
N-EtFOSA (Surrogate Recovery)	%	86	92	39	77	77	NR70
N-MeFOSAA (Surrogate Recovery)	%	89	90	47	93	93	NR70
N-EtFOSAA (Surrogate Recovery)	%	93	102	57	111	111	NR70
N-MeFOSE (Surrogate Recovery)	%	88	91	49	103	103	NR70
N-EtFOSE (Surrogate Recovery)	%	80	105	36	92	92	NR70
4:2 FTS (Surrogate Recovery)	%	150	93	90	71	71	NR70
6:2 FTS (Surrogate Recovery)	%	74	126	65	72	72	NR70
8:2 FTS (Surrogate Recovery)	%	70	108	57	82	82	NR70
8:2 diPAP (Surrogate Recovery)	%	106	128	76	112	112	NR70
Dates							
Date extracted		22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	
Date analysed		22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	

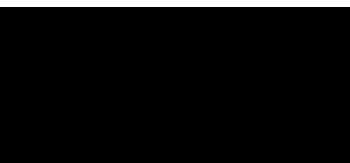
N21/023534
to
N21/023543

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



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Accreditation No. 198

29-OCT-2021

REPORT OF ANALYSIS

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Report No. RN1332669

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/211020 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 20-OCT-2021 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N21/023539	0874_QC213_211013	WATER 13.10.21 1400
N21/023540	0874_QC214_211013	WATER 13.10.21 0945
N21/023541	0874_QC215_211013	WATER 13.10.21 1040
N21/023542	0874_QC216_211013	WATER 13.10.21 1545

Lab Reg No.	Date Sampled	Units	N21/023539	N21/023540	N21/023541	N21/023542	Method
			13-OCT-2021	11-OCT-2021	13-OCT-2021	13-OCT-2021	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		0.070	8.6	8.2	0.37	NR70
PFPeA (2706-90-3)	ug/L		0.054	15	12	0.51	NR70
PFHxA (307-24-4)	ug/L		0.27	38	60	2.7	NR70
PFHpA (375-85-9)	ug/L		0.041	3.4	13	0.34	NR70
PFOA (335-67-1)	ug/L		0.17	6.8	19	1.00	NR70
PFNA (375-95-1)	ug/L		<0.01	0.16	0.11	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	0.049	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	0.015	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	0.010	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	0.031	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		0.10	10	28	1.1	NR70
PFHxS (355-46-4)	ug/L		1.7	130	220	10	NR70
PFHpS (375-92-8)	ug/L		0.30	7.1	8.6	0.82	NR70
PFOS (1763-23-1)	ug/L		16	190	50	16	NR70
PFNS (68259-12-1)	ug/L		0.016	0.13	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L		0.089	11	22	1.1	NR70
PFOSA (754-91-6)	ug/L		0.056	0.082	<0.01	0.16	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Report No. RN1332669

Lab Reg No.			N21/023539	N21/023540	N21/023541	N21/023542	
Date Sampled			13-OCT-2021	11-OCT-2021	13-OCT-2021	13-OCT-2021	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	1.5	1.3	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	0.11	0.025	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	103	111	100	99	99	NR70
PFPeA (Surrogate Recovery)	%	98	97	106	94	94	NR70
PFHxA (Surrogate Recovery)	%	92	88	102	89	89	NR70
PFHpA (Surrogate Recovery)	%	103	97	100	101	101	NR70
PFOA (Surrogate Recovery)	%	111	100	101	96	96	NR70
PFNA (Surrogate Recovery)	%	72	80	92	75	75	NR70
PFDA (Surrogate Recovery)	%	104	100	98	99	99	NR70
PFUdA (Surrogate Recovery)	%	111	103	107	96	96	NR70
PFDoA (Surrogate Recovery)	%	98	90	87	80	80	NR70
PFTeDA (Surrogate Recovery)	%	103	97	89	88	88	NR70
PFHxDA (Surrogate Recovery)	%	95	106	108	102	102	NR70
FOUEA (Surrogate Recovery)	%	85	101	100	90	90	NR70
PFBS (Surrogate Recovery)	%	101	104	107	112	112	NR70
PFHxS (Surrogate Recovery)	%	92	87	83	69	69	NR70
PFOS (Surrogate Recovery)	%	103	95	90	89	89	NR70
PFOSA (Surrogate Recovery)	%	76	93	95	70	70	NR70
N-MeFOSA (Surrogate Recovery)	%	74	86	97	70	70	NR70
N-EtFOSA (Surrogate Recovery)	%	71	100	108	62	62	NR70
N-MeFOSAA (Surrogate Recovery)	%	85	101	94	69	69	NR70
N-EtFOSAA (Surrogate Recovery)	%	111	107	110	84	84	NR70
N-MeFOSE (Surrogate Recovery)	%	72	86	95	98	98	NR70
N-EtFOSE (Surrogate Recovery)	%	75	114	91	52	52	NR70
4:2 FTS (Surrogate Recovery)	%	112	84	90	80	80	NR70
6:2 FTS (Surrogate Recovery)	%	77	85	89	68	68	NR70
8:2 FTS (Surrogate Recovery)	%	86	85	87	65	65	NR70
8:2 diPAP (Surrogate Recovery)	%	123	98	93	113	113	NR70
Dates							
Date extracted		22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	
Date analysed		22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	22-OCT-2021	

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Report No. RN1332669

Lab Reg No.			N21/023539	N21/023540	N21/023541	N21/023542	
Date Sampled			13-OCT-2021	11-OCT-2021	13-OCT-2021	13-OCT-2021	
		Units					Method



Organics - NSW
Accreditation No. 198

29-OCT-2021

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Report No. RN1332669

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/211020 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 20-OCT-2021 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N21/023543	0874_QC217_211014	WATER 14.10.21 0915

Lab Reg No.	Date Sampled	Units	N21/023543	14-OCT-2021	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	0.11			NR70
PFPeA (2706-90-3)	ug/L	0.087			NR70
PFHxA (307-24-4)	ug/L	0.47			NR70
PFHpA (375-85-9)	ug/L	0.042			NR70
PFOA (335-67-1)	ug/L	0.067			NR70
PFNA (375-95-1)	ug/L	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.28			NR70
PFHxS (355-46-4)	ug/L	1.7			NR70
PFHpS (375-92-8)	ug/L	0.057			NR70
PFOS (1763-23-1)	ug/L	0.83			NR70
PFNS (68259-12-1)	ug/L	<0.01			NR70
PFBS (375-73-5)	ug/L	0.36			NR70
PFOSA (754-91-6)	ug/L	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01			NR70
6:2 FTS (27619-97-2)	ug/L	<0.01			NR70

REPORT OF ANALYSIS

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Lab Reg No.			N21/023543			
Date Sampled			14-OCT-2021			
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	102				NR70
PFPeA (Surrogate Recovery)	%	78				NR70
PFHxA (Surrogate Recovery)	%	88				NR70
PFHpA (Surrogate Recovery)	%	98				NR70
PFOA (Surrogate Recovery)	%	98				NR70
PFNA (Surrogate Recovery)	%	104				NR70
PFDA (Surrogate Recovery)	%	100				NR70
PFUdA (Surrogate Recovery)	%	82				NR70
PFDoA (Surrogate Recovery)	%	64				NR70
PFTeDA (Surrogate Recovery)	%	72				NR70
PFHxDA (Surrogate Recovery)	%	76				NR70
FOUEA (Surrogate Recovery)	%	82				NR70
PFBS (Surrogate Recovery)	%	96				NR70
PFHxS (Surrogate Recovery)	%	90				NR70
PFOS (Surrogate Recovery)	%	97				NR70
PFOSA (Surrogate Recovery)	%	63				NR70
N-MeFOSA (Surrogate Recovery)	%	40				NR70
N-EtFOSA (Surrogate Recovery)	%	43				NR70
N-MeFOSAA (Surrogate Recovery)	%	59				NR70
N-EtFOSAA (Surrogate Recovery)	%	60				NR70
N-MeFOSE (Surrogate Recovery)	%	52				NR70
N-EtFOSE (Surrogate Recovery)	%	42				NR70
4:2 FTS (Surrogate Recovery)	%	147				NR70
6:2 FTS (Surrogate Recovery)	%	77				NR70
8:2 FTS (Surrogate Recovery)	%	69				NR70
8:2 diPAP (Surrogate Recovery)	%	77				NR70
Dates						
Date extracted		22-OCT-2021				
Date analysed		22-OCT-2021				

Organics - NSW
Accreditation No. 198

29-OCT-2021

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

REPORT OF ANALYSIS

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ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1332230*
RN1332233

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AE006/211020

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
		ug/L	ug/L	Sample ug/L	Duplicate ug/L	RPD %	LCS %	Matrix Spike %
				N21/023534				N21/023534
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	118	101
PFPeA (2706-90-3)	NR70	0.02	<0.02	0.023	0.025	8.0	104	105
PFHxA (307-24-4)	NR70	0.01	<0.01	0.037	0.042	13	111	107
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	103	104
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	101	96
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	105	109
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	110	101
PFUdA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	100	104
PFDoA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	110	104
PFTrDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	109	104
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	112	100
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	96	99
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	112	110
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	103	108
PFBS (375-73-5)	NR70	0.01	<0.01	<0.01	<0.01	-	105	114
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	106	111
PFHxS (355-46-4)	NR70	0.01	<0.01	0.092	0.095	3.0	105	125
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	105	104
PFOS (1763-23-1)	NR70	0.02	<0.02	0.18	0.18	0	100	91
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	102	96
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	102	104
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	104	99
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	118	102
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	115	108
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	102	103
N-EtFOSAA(2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	102	102
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	130	115
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	102	101
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	112	107
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	0.018	0.021	15	107	112
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	112	94
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	118	101
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	112	118

Results expressed in percentage (%) or ug/L wherever appropriate.

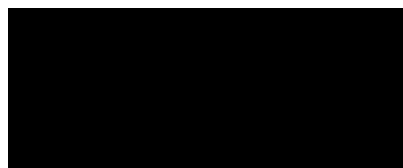
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



**Organics Manager, NMI-North Ryde
26/10/2021**

Date:



QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/211020

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%
PFBA (375-22-4)	NR70	0.002	<0.002	NA	NA	NA	112	NA
PFPeA (2706-90-3)	NR70	0.002	<0.002	NA	NA	NA	100	NA
PFHxA (307-24-4)	NR70	0.001	<0.001	NA	NA	NA	106	NA
PFHpA (375-85-9)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFOA (335-67-1)	NR70	0.001	<0.001	NA	NA	NA	99	NA
PFNA (375-95-1)	NR70	0.001	<0.001	NA	NA	NA	106	NA
PFDA (335-76-2)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFUdA (2058-94-8)	NR70	0.002	<0.002	NA	NA	NA	103	NA
PFDaA (307-55-1)	NR70	0.002	<0.002	NA	NA	NA	107	NA
PFTrDA (72629-94-8)	NR70	0.002	<0.002	NA	NA	NA	104	NA
PFTeDA (376-06-7)	NR70	0.002	<0.002	NA	NA	NA	96	NA
PFHxDA (67905-19-5)	NR70	0.002	<0.002	NA	NA	NA	97	NA
PFOA (16517-11-6)	NR70	0.005	<0.005	NA	NA	NA	92	NA
FOEA (70887-84-2)	NR70	0.001	<0.001	NA	NA	NA	111	NA
PFBS (375-73-5)	NR70	0.001	<0.001	NA	NA	NA	105	NA
PFPeS (2706-91-4)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFHxS (355-46-4)	NR70	0.001	<0.001	NA	NA	NA	99	NA
PFHpS (375-92-8)	NR70	0.001	<0.001	NA	NA	NA	103	NA
PFOS (1763-23-1)	NR70	0.002	<0.002	NA	NA	NA	121	NA
PFNS (68259-12-1)	NR70	0.001	<0.001	NA	NA	NA	107	NA
PFDS (335-77-3)	NR70	0.001	<0.001	NA	NA	NA	109	NA
PFOSA (754-91-6)	NR70	0.001	<0.001	NA	NA	NA	100	NA
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	NA	NA	NA	108	NA
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	NA	NA	NA	102	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	NA	NA	NA	107	NA
N-EtFOSAA(2991-50-6)	NR70	0.002	<0.002	NA	NA	NA	112	NA
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	NA	NA	NA	109	NA
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	NA	NA	NA	109	NA
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	NA	NA	NA	98	NA
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	NA	NA	NA	106	NA
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	NA	NA	NA	103	NA
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	NA	NA	NA	116	NA
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	NA	NA	NA	111	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.

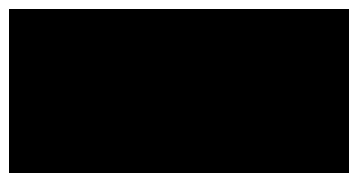
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
26/10/2021

Date:



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax: [REDACTED]

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: Susanne Neuman
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax: [REDACTED]

SAMPLE DETAILS

NMI Job Name: AECO06/211020

Total No. of Samples: 10

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N21/023534	27-OCT-2021	0874_QC208_211011	WATER 11.10.21 0850
N21/023535	27-OCT-2021	0874_QC209_211011	WATER 11.10.21 1150
N21/023536	27-OCT-2021	0874_QC210_211011	SOIL 11.10.21 1330
N21/023537	27-OCT-2021	0874_QC211_211011	WATER 11.10.21 1415
N21/023538	27-OCT-2021	0874_QC212_211013	WATER 13.10.21 1330
N21/023539	27-OCT-2021	0874_QC213_211013	WATER 13.10.21 1400
N21/023540	27-OCT-2021	0874_QC214_211013	WATER 13.10.21 0945
N21/023541	27-OCT-2021	0874_QC215_211013	WATER 13.10.21 1040
N21/023542	27-OCT-2021	0874_QC216_211013	WATER 13.10.21 1545
N21/023543	27-OCT-2021	0874_QC217_211014	WATER 14.10.21 0915

SAMPLE RECEIVED CONDITION

Date samples received: 20-OCT-2021

Sample received in good order: Yes

NMI Quotation no. provided: QLD_0874

Client purchase order number: 60612487_2_1

Temperature of samples: Chilled

Comments:

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

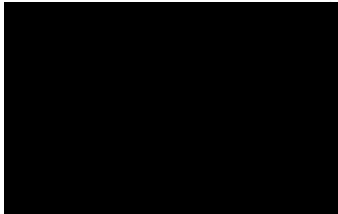
The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>

Appendix F

Equipment Calibration Certificates



Calibration Certificate



This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 16-Nov-2020
Calibration Date: 16-Nov-2020
Next Calibration Due: 16-Nov-2021

Call ID / Order No: 246888
Job No / Pack No: S2468880001

Customer: AECOM Australia Pty Ltd (Townsville)-ID **Serial No:** 18K102334
Description: 407250
Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 1 Years **Temp:** 24.2°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2468880001

<u>Desc</u>	<u>As Found</u>		<u>As Left (Cal Status)</u>	
	<u>Actual</u>	<u>Result</u>	<u>Actual</u>	<u>Result</u>
PH4 (4.00)	3.91	Pass	4.0	Pass
PH7 (7.01)	6.85	Pass	7.01	Pass
Cond (2707uS/cm)	2773.0	Fail	2707.0	Pass
DO (0.0%)	0.0	Pass	0.0	Pass
Turbidity (100NTU)	110.73	Fail	99.42	Pass
ORP (231.9mV)	277.3	Fail	231.7	Pass

<u>Equip ID</u>	<u>Standard Used Description</u>	<u>Valid Until</u>	<u>Cert</u>
-----------------	----------------------------------	--------------------	-------------

Completed By:

Signed:

Multi Parameter Water Meter



airmet

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 18L102023

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

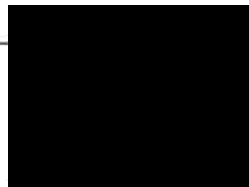
This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.02	NIST	368681	pH 7.02
2. pH 4.00		pH 4.00	NIST	368314	pH 4.00
3. mV		233.0mV	NIST	358632/358822	233.0mV
4. EC		2760uS	NIST	366823	2760uS
6. D.O		0%	NIST	11171	0%
7. Temp	901	20.9°C	NIST	Testomini901	20.9°C

Calibrated by:

Calibration date: 5/10/2021

Next calibration due: 5/04/2022



ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	BOHLE RIVER.	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI ProDSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	28/9/21 0630				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	7.01	4.00	2655	239.3	100
Calibration Reading:	6.96	4.03	2662	234.7	99.9
Calibration Temperature:	23.2	23.1	23.2	18.6	19.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	6/10/21 0800				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2707	237.0	100
Bump Test Reading:	7.12	4.14	3050	226.3	100.4
Bump Test Temperature:	24.3	24.4	24.4	20.4	22.1

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument is calibrated daily and bump tested as required by fieldwork staff.

6/10/21

Fieldwork Staff Signature

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	LAARF BASE TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI ProDSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	7/10/21 0745				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2760	231.5	100
Calibration Reading:	6.98	3.96	2557	238.1	99.2
Calibration Temperature:	24.3	24.5	25.1	24.6	24.3

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	11/10/21 0715				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2760	231.2	100
Bump Test Reading:	7.03	4.04	2908	223.1	98.9
Bump Test Temperature:	24.0	24.1	25.1	24.9	24.5

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual [REDACTED] calibrated daily and bump tested as required by fieldwork staff.

_____ 11/10/21 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	RAAF TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AIRMET
Make and Model:	YSI PRO PWS
Serial Number:	18L102023

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/10/21 1500				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm	ppm %
Calibration Standard Concentration:	7.0	4.0	2918	229.6	100
Calibration Reading:	7.04	4.07	2918 3012	278.2	92
Calibration Temperature:	29.3	29.3	27.8	28.1	25.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	12/10/21 06.50				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7.01	4	2655	732	100
Bump Test Reading:	7.14	4.01	2704 2517	732.7	98.1
Bump Test Temperature:	23.4	23.0	23.00	24.7	24.1

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 12/10/21
Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OML	Project Number:	60612487
Project Location:	RAF TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	12/10/21 0700				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	7.00	4.00	2760	231.6	100
Calibration Reading:	7.21	4.20	2727	226.8	100.1
Calibration Temperature:	22.6	23.3	25.5	24.5	24.6

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	13/10/21 0700				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	7.01	4.01	2813	230.4	100
Bump Test Reading:	6.96	4.05	2852	222.8	100.5
Bump Test Temperature:	23.8	24.7	26.6	25.4	25.6

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected, calibrated daily and bump tested as required by fieldwork staff.

_____ 13/10/21 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PPAs OMP		Project Number:	60617481	
Project Location:	RAAF TSU		Client:	DEFENCE	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	YSI AIRMET				
Make and Model:	YSI PRO PLUS				
Serial Number:	181162023				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	13/10/21 1000				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	000 ppm	ppm
Calibration Standard Concentration:	7.00	4.60	2815	230.7	202.100
Calibration Reading:	7.00	4.00	2985	225.8	212.902
Calibration Temperature:	24.8°C	25.4°C	26.6	26.0	26.7
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			13/10/21		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	DFASOMP	Project Number:	60612487
Project Location:	RAAF TSU	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PROBS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/10/21 0715				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	ppm
Calibration Standard Concentration:	7.00	4.01	2865	229.2	100
Calibration Reading:	6.98	4.04	2774	230.4	97.1
Calibration Temperature:	25.4	26.7	26.9	26.4	26.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

14/10/21

Fieldwork Staff Signature
Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	LAKE TV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRODSS
Serial Number:	18K102234

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	16/10/21 1115				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.00	4.01	2865	127.8	100
Calibration Reading:	6.94	3.86	2711	235.8	102.0
Calibration Temperature:	27.3	27.2	27.3	27.5	29.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen.	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

16/10/21

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	LAKE TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRODSS
Serial Number:	18K102234

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	16/10/21 11:15				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.00	4.01	2865	127.8	100
Calibration Reading:	6.94	3.86	2711	235.8	102.0
Calibration Temperature:	27.3	27.2	27.3	27.5	29.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen.	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

16/10/21

Date

Distribution: Project Central File

Rainfall Event Sampling Factual Report, January 2022

PFAS OMP - RAAF Base Townsville

05-May-2022

PFAS Ongoing Monitoring Program - RAAF Base Townsville

Doc No. 60612487_RP56_20220505_2

Rainfall Event Sampling Factual Report, January 2022

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Level 5, 7 Tomlins Street, South Townsville Qld 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

05-May-2022

Job No.: 60612487_RP56_20220505_2

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

Quality Information

Document Rainfall Event Sampling Factual Report, January 2022

Ref 60612487_RP56_20220505_2

Date 05-May-2022

Prepared by [REDACTED]

Reviewed by [REDACTED]

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	9-Mar-2022	Draft for Review	[REDACTED]	
1	07-Apr-2022	Draft for Final Review	[REDACTED]	
2	05-May-2022	Final Issue	[REDACTED]	[REDACTED]

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Figure 1	RAAF Base Townsville Location
Figure 2	Surface Water Monitoring Locations

List of Tables (Appendix B)

Table T1	Surface Water Field Parameters
Table T2	Surface Water Analytical Results

Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure, as amended (2013)
BOM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling Analysis Quality Plan
SW	Surface Water

Unit	Definition	Unit	Definition
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
µS	Microsiemens	cm	Centimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019a) at the Royal Australian Airforce (RAAF) Base Townsville (the 'Base') located in north Queensland. The Management Area as defined in the PMAP is the Base boundary as shown in **Figure 1** in **Appendix A**. The Monitoring Area includes areas on-Base and off-Base.

The OMP for Townsville (Defence, 2019a) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero on the bom.gov.au website or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of five consecutive days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP, AECOM, 2021) provides details of the sampling events.

A rainfall sampling event was triggered in January 2022 following 85 mm rainfall recorded at Townsville Aero (station 032040; BOM, 2022) on 26 January 2022. This sampling event factual report has been prepared to report the results of the January 2022 rainfall sampling event, specifically highlighting first-time detections and/or first-time exceedances of human health and ecological screening criteria for perfluorohexane sulfonic acid (PFHxS) + perfluorooctane sulfonate (PFOS), PFOS and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP factual reports – guidance for preparation*, v0.2, May 2021 (Department of Defence, 2021).

1.2 Objectives

The objective of the OMP is to provide information on changes in PFAS contamination originating from the Base to inform risk management decisions by Defence and State agencies to protect human health and the environment.

The data collected will assist in the timely identification of risks and inform Defence's approach to the management of PFAS, including updates and revisions to the PMAP.

The objective of this phase of works is to:

- Implement the scope of works for the January 2022 rainfall sampling event in accordance with the SAQP (AECOM, 2021); and
- Assess surface water discharges during flushing episodes from the Base. An 'event' is defined as 50 mm rainfall in 24 hours or a cumulative 100 mm rainfall in seven days.

2.0 Scope of Work

The sampling event at RAAF Base Townsville was completed in general accordance with the SAQP (AECOM, 2021). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure that the document is current.
- Collection of surface water samples at 19 locations including nine on-Base and ten off-Base locations, daily for five consecutive days (refer to **Figure 2, Appendix A** and **Table 1** below). One deviation from the SAQP occurred as discussed in **Section 3.0**.
- Analysis of all surface water samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per cooler.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Sampling Event Factual Report.

Table 1 Surface Water Catchments and Sampling Locations

Catchment	Location ID	
	On-Base	Off-Base
Bohle River / Louisa Creek / Townsville Town Common	SW014, SW016, SW112, SW123, SW125, SW131	SW017, SW127, SW129
Mundy Creek	SW010, SW121, SW132	SW108, SW109, SW115, SW116, SW117, SW118
Three Mile Creek	SW102	

3.0 Deviations from the SAQP

Table 2 lists the deviations from the SAQP (AECOM, 2021) during this sampling round.

Table 2 Deviations from the SAQP during January 2022 Rainfall Sampling Event

SAQP	January 2022 Rainfall Sampling Event	Impact of Deviation
Locations will be sampled daily for five consecutive days.	Location SW016 was unable to be sampled on the second day (27 January 2022) due to flooding restricting safe access to this location.	Concentrations of PFAS compounds at SW016 were highest on the first day of sampling, similar to some other locations, and sampling on the subsequent days was able to be achieved. It is considered that the collection of a surface water sample at this location on 27 January 2022, on the second day of the sampling program, would be unlikely to affect the interpretation of the data.

4.0 Methodology

4.1 Surface Water Sampling Methodology

The methodology used for the January rainfall event sampling was in accordance with the SAQP (AECOM, 2021) and is summarised in **Table 3** below.

Table 3 Surface Water Sampling Methodology

Item	Details
Field parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded for all surface water samples and are presented in Table T1 in Appendix B . Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling methodology	Samples were collected from immediately below the water surface to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where bottles could not be lowered into the water column directly, a sampling pole with a decontaminated stainless-steel cup was used to retrieve the sample and transfer the water into the laboratory-supplied container.
Quality Assurance/Quality Control (QA/QC) Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e., splits), trip blanks, and rinsate samples. Refer to Appendix C for assessment of QA/QC sample data.
Sample analysis	All primary samples were submitted for PFAS suite (28 analytes) using the standard levels of detection. Australian Laboratory Services (ALS) Brisbane, Queensland was used as the primary laboratory. National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. Chain of Custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

4.2 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019 (NHMRC 2019).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the PMAP (Defence, 2019a) and SAQP (AECOM, 2021), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 4** below.

Table 4 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Recreational use – surface water	PFOS+PFHxS	2 µg/L	The values are from NHMRC (2019).
	PFOA	10 µg/L	<i>All surface water results were compared to these criteria, as nominated in the PMAP (Defence, 2019a).</i>
Ecological Receptors			
Freshwater and marine (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP 2020 (HEPA, 2020).
	PFOA	220 µg/L	<i>All surface water results were compared to these criteria, as nominated in the PMAP (Defence, 2019a).</i>

4.3 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2021).

Data validation assessment is provided in **Appendix C**.

Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event has been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2021) Annex L requirements.

5.0 Field Observations and Results

The January 2022 rainfall event sampling was completed between 26 January and 30 January 2022. This sampling event was triggered by the report of 84.8 mm of rainfall at Townsville Aero (station 032040) on 26 January 2022. **Plate 1** below shows the daily rainfall received at Townsville Aero the week preceding the sampling event and for the duration of the sampling. The daily rainfall totals presented in **Plate 1** represent the rainfall received in the preceding 24 hrs to 9 am on the date shown (BOM, 2022).

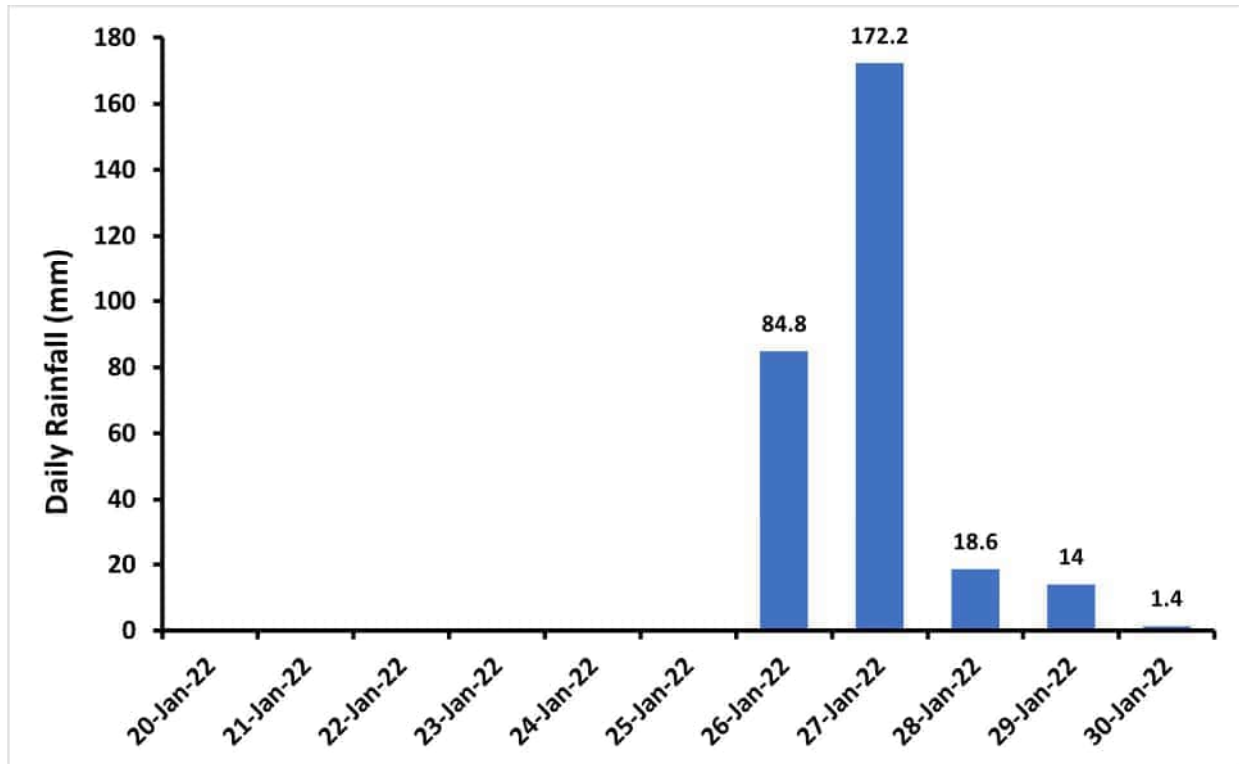


Plate 1 Daily recorded rainfall at Townsville Aero (station 032040) between 20 January 2022 and 30 January 2022

The results of the sampling event are summarised in the following sections.

5.1 Surface Water Observations and Field Measurements

Table 5 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water sampling locations were accessible and sampled for this monitoring event, except for SW016 which was unable to be sampled on one day (27 January 2022) due to flooding. This location was able to be accessed at all other times during the sampling program.
Field Observations	<p>A hydrocarbon sheen was noted at SW017 across the five-day sampling event. A hydrocarbon odour was also noted at this location on 26 and 27 January 2022. This sampling location is immediately downstream of a main road (Woolcock Street, off-Base) and the observed sheen is related to surface water runoff from the road.</p> <p>A slight biosheen possibly due to organic material was noted at SW121 on 29 January 2022. A biosheen was noted at SW109 and SW121 on 30 January 2022.</p> <p>A very strong sulfurous odour was noted at SW131 across the five-day sampling event.</p> <p>Field observations are presented in Table T1 in Appendix B.</p>

Item	Observations
Water Quality Field Measurements	<p>Surface water geochemical parameters were measured prior to collecting surface water samples. The readings are presented in Table T1 in Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • Mean DO was 5.62 mg/L indicating moderately oxygenated conditions. Values ranged from 2.00 to 12.90 mg/l. • Mean EC was 736.62 $\mu\text{S/cm}$. Conditions were generally fresh with select coastal locations displaying saline conditions. Values ranged from 47.90 $\mu\text{S/cm}$ to 10,904.00 $\mu\text{S/cm}$. • Mean pH was 7.01 indicating neutral conditions. Values ranged from 6.31 to 9.00. • Mean ORP was 119.10 mV indicating moderately oxidising conditions. Values ranged from -103.00 mV to 210.10 mV. • Mean temperature was 29 °C. Values ranged from 25.4 °C to 35.7 °C. <p>DO – dissolved oxygen; EC – electrical conductivity; pH – potential of hydrogen; ORP – oxidation-reduction potential</p>
Weather Conditions	<p>Overcast conditions and rain were experienced during the sampling program and a summary of weather conditions and locations affected is provided below.</p> <p>26 January 2022 Heavy rain during the sampling of SW010, SW112, SW121, SW125, SW131 and SW132. Light rain during the sampling of SW014, SW016, SW017, SW102, SW108, SW109, SW117, SW123 and SW129.</p> <p>27 January 2022 Heavy rain during the sampling of SW108, SW109, SW116 and SW118. Light rain during the sampling of SW014, SW017, SW102, SW115, SW117, SW125 and SW132.</p> <p>28 January 2022 Light rain during the sampling of SW121 and SW129.</p> <p>29 January 2022 Heavy rain during the sampling of SW017. Light rain during the sampling of SW121 and SW131.</p> <p>30 January 2022 No rain during sampling.</p> <p>The daily rainfall totals recorded by the Bureau of Meteorology at the Townsville Aero Weather Station for the sampling event are presented in Plate 1 above.</p>
Estate Management Works or Training Activities	<p>No remediation, construction activities were underway during the sampling event.</p>

There were no changes to equipment or the monitoring network condition that may affect data integrity.

5.2 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T2** in **Appendix B**, specifically highlighting first-time detections and/or first-time exceedances of human health and ecological screening criteria for PFHxS+PFOS, PFOS and / or PFOA. Of the 94 surface water samples analysed, 78 samples reported PFAS concentrations above the laboratory LOR. A total of 68 surface water samples exceeded the adopted ecological guidelines for PFOS and 27 surface water samples exceeded the recreational use guidelines for PFOS+PFHxS. No exceedances of the adopted guidelines were reported for PFOA (**Table T2, Appendix B**).

There were no first-time detections or first-time exceedances of guideline values detected in surface water during this sampling event. PFAS concentrations were within the historical range of concentrations (for wet season, dry season and rain event sampling) for surface water locations on and off-Base.

6.0 Summary and Next Sampling Event

6.1 Summary of Rainfall Event

A surface water sampling event was triggered by the occurrence of 85 mm rainfall on 26 January 2022. The sampling event was conducted on and off-Base for RAAF Base Townsville between 26 and 30 January 2022. The event included sampling of 19 surface water locations daily for five consecutive days, except for SW016 which was not sampled on 27 January 2022 as detailed below. **Table 6** summarises the findings of the January 2022 sampling event and the recommended actions.

Table 6 Summary of Sampling Event

Item	Comment	Recommended Actions
Surface Water: Access to sampling locations	All 19 locations were accessed daily from 26 January to 30 January 2022 except for SW016. Access to location SW016 was restricted due to flooding on 27 January 2022. This location was not sampled on this date.	Ongoing monitoring in accordance with the OMP.
Analytical Results	PFAS compounds were detected above laboratory LOR in 78 of the 94 surface water samples analysed.	Ongoing monitoring in accordance with the OMP.
First-time detections and exceedances of Sum of PFOS+PFHxS, PFOS or PFOA	There were no first-time detections or first-time exceedances of the NHMRC (2019) recreational use guidelines or the 95% species protection ecological guidelines (HEPA, 2020).	Ongoing monitoring in accordance with the OMP.

Overall, the concentrations of several PFAS analytes (including PFOS, PFOA, sum of PFHxS + PFOS) are lowest for 26 January 2022 and increase across the course of the five-day sampling event for the majority of both on-base and off-base sampling locations. The highest concentrations of the majority of the PFAS analytes were detected for the final day of sampling (30 January 2022). Notably, the opposite trend is true for two on-base samples in the Bohle River/Louisa Creek/Town Common area (SW016 and SW131). For these samples, the concentrations of the PFAS analytes outlined above show a generally decreasing to fluctuating trend over the course of the five-day sampling event.

6.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April 2022.

6.3 Upcoming Annual Interpretive Report

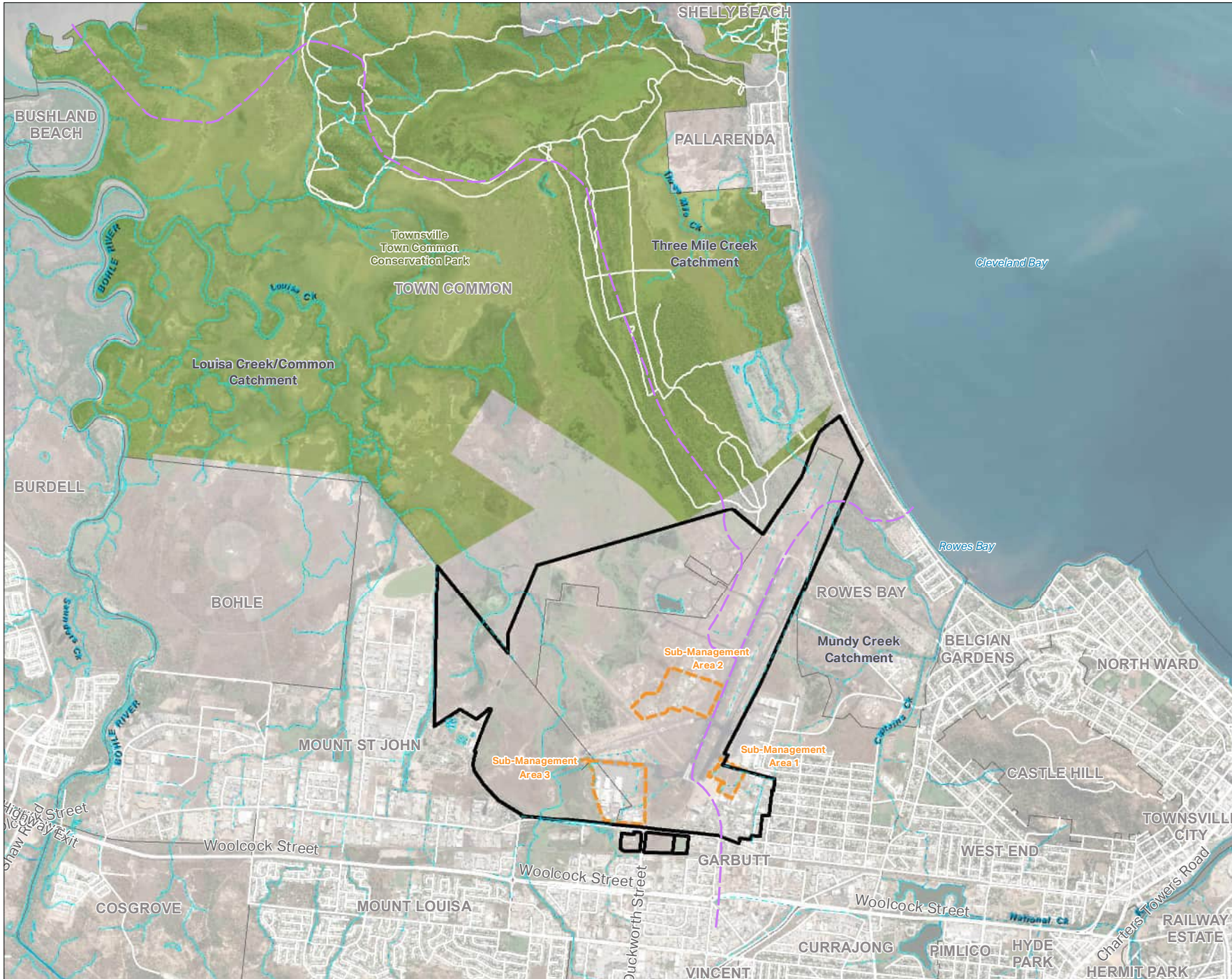
The next annual interpretative report is scheduled for December 2022.

7.0 References

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- Standards Australia. (1998). *AS/NZS 5667.11–1998: Water Quality - Sampling - Guidance on Sampling of Groundwaters*.

Appendix A

Figures



- Legend
- Management Area
 - Sub-Management Area
 - Major Watercourse
 - Minor Watercourse
 - Major Culvert
 - Minor Culvert
 - Canal line
 - Catchment boundaries

FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
 PFAS OMP
REPORT NAME:
 PFAS OMP – RAAF Base Townsville
 Rainfall Event Sampling,
 January 2022

CLIENT NAME:
 Department of Defence
PROJECT NUMBER:
 60612487

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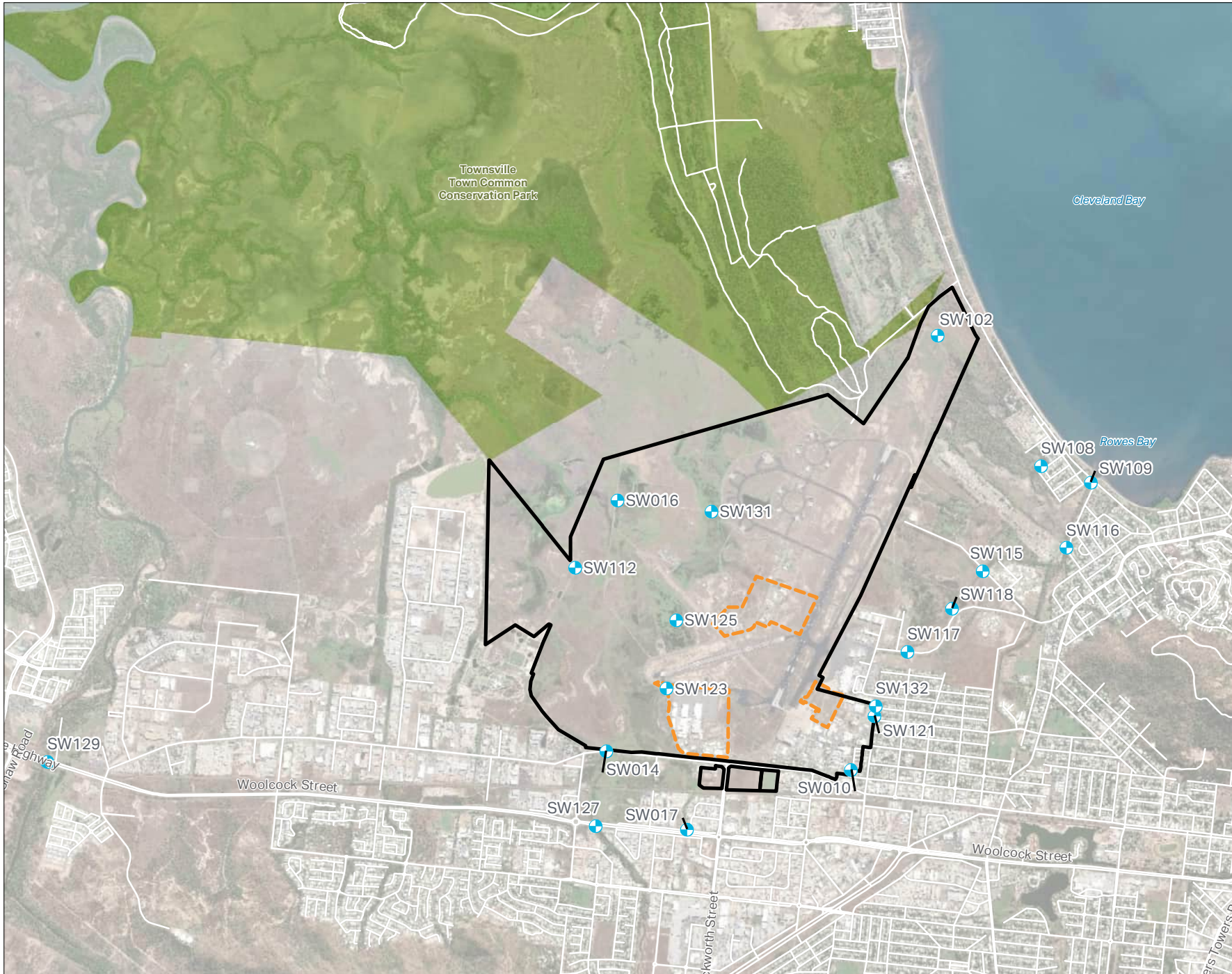
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Sources:
 Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
 USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management
- Sub-Management Area
- Surface Water Sample Location



**FIGURE 2:
SURFACE WATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville
Rainfall Event Sampling,
January 2022

CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USA, USGS, AeroGRID, IGN and the GIS User

Appendix B


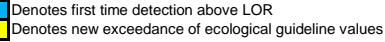
Analytical Tables

On/Off-Base	Catchment	Location Code	Sample ID	Sample Date	DO mg/L	EC µS/cm	pH	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Weather	Comment		
On-Base	Bohle River/Louisa Creek/Town Common	SW014	0874_SW014_220126	26/01/2022	3.22	148.8	7.19	160.7	26.6	9.78	Clear	No odour	No sheen	Light Rain			
			0874_SW014_220127	27/01/2022	4.69	129.9	6.79	146.1	27.2	16.20	Clear	No odour	No sheen	Light Rain			
			0874_SW014_220128	28/01/2022	2.85	257.1	6.71	159.3	27.6	7.30	Olive yellow	No odour	No sheen	No rain			
			0874_SW014_220129	29/01/2022	2.63	332.5	6.78	147.1	27.8	6.13	Pale yellow	No odour	No sheen	No rain			
		SW016	0874_SW016_220130	30/01/2022	2.28	469.0	7.05	117.1	27.9	4.92	Brown	No odour	No sheen	No rain			
			0874_SW016_220126	26/01/2022	6.62	439.1	6.98	77.9	26.7	17.84	Brown	No odour	No sheen	Light Rain			
			0874_SW016_220127	27/01/2022	Access unavailable due to flooding - Sample not collected on this day												
			0874_SW016_220128	28/01/2022	3.85	82.4	6.65	101.7	27.3	6.58	Dark reddish brown	No odour	No sheen	No rain			
		SW112	0874_SW016_220129	29/01/2022	4.39	154.3	6.53	88.2	29.5	2.54	Pale yellow	No odour	No sheen	No rain	Moderate flow		
			0874_SW016_220130	30/01/2022	5.00	181.4	6.68	60.1	31.0	2.74	Brown	No odour	No sheen	No rain			
			0874_SW112_220126	26/01/2022	7.35	595.0	7.26	210.1	28.0	4.47	Clear	No odour	No sheen	Heavy Rain			
			0874_SW112_220127	27/01/2022	6.93	865.0	6.91	181.3	29.5	4.75	Clear	No odour	No sheen	No rain	Moderate flow		
		SW123	0874_SW112_220128	28/01/2022	6.70	175.3	6.93	157.4	27.5	6.07	Olive yellow	No odour	No sheen	No rain			
			0874_SW112_220129	29/01/2022	7.64	947.0	7.23	171.7	28.7	1.17	Pale yellow	No odour	No sheen	No rain	Moderate flow		
			0874_SW112_220130	30/01/2022	7.17	761.0	7.21	132.5	28.9	18.35	Brown	No odour	No sheen	Windy			
			0874_SW123_220126	26/01/2022	6.64	49.7	6.91	148.3	27.5	25.42	Clear	No odour	No sheen	Light Rain			
		SW125	0874_SW123_220127	27/01/2022	6.24	55.1	6.48	155.6	29.3	3.75	Clear	No odour	No sheen	No rain			
			0874_SW123_220128	28/01/2022	5.23	252.0	6.62	142.9	28.0	4.31	Clear	No odour	No sheen	No rain			
			0874_SW123_220129	29/01/2022	6.12	189.2	6.79	104.3	31.2	3.07	Pale yellow	No odour	No sheen	No rain	No flow		
			0874_SW123_220130	30/01/2022	5.09	353.7	6.75	94.4	31.7	5.12	Brown	No odour	No sheen	No rain			
		SW131	0874_SW125_220126	26/01/2022	6.91	266.0	7.61	162.9	26.2	7.81	Clear	No odour	No sheen	Heavy Rain			
			0874_SW125_220127	27/01/2022	6.44	106.6	6.42	152.4	29.9	24.98	Clear	No odour	No sheen	Light Rain			
			0874_SW125_220128	28/01/2022	5.09	133.5	6.63	132.2	27.2	8.03	Light olive brown	No odour	No sheen	No rain			
			0874_SW125_220129	29/01/2022	7.04	249.0	6.94	143.2	29.9	6.64	Pale yellow	No odour	No sheen	No rain			
		SW010	0874_SW125_220130	30/01/2022	5.75	531.0	7.22	112.8	31.5	3.77	Yellowish brown	No odour	No sheen	Overcast			
			0874_SW131_220126	26/01/2022	2.85	910.0	6.53	-41.2	25.4	3.74	Brown	Rotten egg smell (sulfurous)	No sheen	Heavy Rain			
			0874_SW131_220127	27/01/2022	2.74	662.0	6.53	-14.8	27.9	6.81	Brown	Rotten egg smell (sulfurous)	No sheen	No rain			
			0874_SW131_220128	28/01/2022	5.24	90.4	6.64	14.9	27.1	4.46	Dark reddish brown	Rotten egg smell (sulfurous)	No sheen	No rain	Foam on surface of water, could be biofoam or PFAS foam.		
		Mundy Creek	SW121	0874_SW131_220129	29/01/2022	4.00	170.9	6.31	-93.0	28.0	2.80	Yellow	Rotten egg smell (sulfurous)	No sheen	Light Rain	Strong flow	
				0874_SW131_220130	30/01/2022	4.01	237.6	6.71	-103.0	28.9	3.56	Brown	Rotten egg smell (sulfurous)	No sheen	No rain	Strong flow	
				0874_SW010_220126	26/01/2022	7.37	47.9	7.43	165.3	28.2	7.40	Brown	No odour	No sheen	Heavy Rain	Cane toads in drain	
				0874_SW010_220127	27/01/2022	4.70	429.4	7.11	123.7	29.9	7.48	Clear	No odour	No sheen	No rain		
			SW132	0874_SW010_220128	28/01/2022	4.04	374.3	7.66	135.4	27.2	16.68	Clear	No odour	No sheen	No rain		
				0874_SW010_220129	29/01/2022	3.73	509.0	7.03	101.1	30.6	4.78	Pale yellow	No odour	No sheen	No rain	No flow	
				0874_SW010_220130	30/01/2022	3.29	705.0	6.94	102.7	30.8	1.41	Clear	No odour	No sheen	No rain		
				0874_SW121_220126	26/01/2022	7.06	55.0	6.93	184.9	27.3	27.50	Brown	No odour	No sheen	Heavy Rain		
			SW102	0874_SW121_220127	27/01/2022	2.00	225.5	6.58	125.2	32.4	115.81	Brown	No odour	No sheen	No rain		
				0874_SW121_220128	28/01/2022	3.89	269.7	6.75	103.0	27.9	5.62	Clear	No odour	No sheen	Light Rain		
				0874_SW121_220129	29/01/2022	2.30	485.8	6.92	-76.9	31.8	3.55	Pale yellow	No odour	Slight sheen	Light Rain		
				0874_SW121_220130	30/01/2022	4.16	687.0	7.21	114.9	34.0	3.92	Brown	No odour	Biosheen appearance	No rain	Biosheen present one metre downstream from sample	
		Three Mile Creek	0874_SW132_220126	26/01/2022	7.55	88.7	6.87	184.8	27.9	21.03	Brown	No odour	No sheen	Heavy Rain	Strong flow		
			0874_SW132_220127	27/01/2022	9.31	1087.0	7.80	114.7	30.4	4.62	Brown	No odour	No sheen	Light Rain			
			0874_SW132_220128	28/01/2022	10.13	916.0	7.70	114.6	28.3	8.84	Clear	No odour	No sheen	No rain			
			0874_SW132_220129	29/01/2022	11.53	1131.0	8.25	93.9	32.3	2.89	Pale yellow	No odour	No sheen	No rain	No flow		
		Off-Base	Bohle River/Louisa Creek/Town Common	SW017	0874_SW132_220130	30/01/2022	12.90	2077.0	8.94	63.7	34.8	2.27	Clear	No odour	No sheen	No rain	
					0874_SW102_220126	26/01/2022	6.93	123.9	7.15	125.1	26.9	15.10	Clear	No odour	No sheen	Light Rain	
					0874_SW102_220127	27/01/2022	5.71	86.8	6.75	111.3	27.9	7.65	Clear	No odour	No sheen	Light Rain	
					0874_SW102_220128	28/01/2022	4.63	162.7	6.64	117.8	26.8	3.12	Dark reddish brown	No odour	No sheen	No rain	
SW127	0874_SW102_220129			29/01/2022	4.63	233.9	6.51	59.7	29.7	1.83	Pale yellow	No odour	No sheen	No rain	Weak flow		
	0874_SW102_220130			30/01/2022	3.06	349.1	6.61	78.6	30.0	2.72	Brown	No odour	No sheen	No rain			
	0874_SW017_220126			26/01/2022	6.05	105.5	7.28	170.4	27.0	15.40	Clear	HC odour	Sheen	Light Rain	Lots of debris - litter, leaves and sticks		
	0874_SW017_220127			27/01/2022	5.38	137.2	6.87	147.5	27.5	6.22	Clear	HC odour	Slight sheen	Light Rain	Hydrocarbon sheen		
SW129	0874_SW017_220128			28/01/2022	6.45	141.4	7.35	153.4	27.6	12.53	Olive yellow	No odour	No sheen	No rain	No sheen		
	0874_SW017_220129			29/01/2022	4.21	534.0	7.00	116.6	28.7	10.46	Pale yellow	No odour	Slight sheen	Heavy Rain	Hydrocarbon sheen		
	0874_SW017_220130			30/01/2022	3.39	816.0	7.06	118.4	28.6	3.94	Clear	No odour	No sheen	No rain	Lots of debris - litter, leaves and sticks		
	0874_SW127_220126			26/01/2022	3.73	119.7	7.32	180.0	26.1	7.61	Clear	No odour	No sheen	No rain			
SW108	0874_SW127_220127			27/01/2022	4.98	164.3	6.89	145.3	27.3	13.79	Clear	No odour	No sheen	No rain	Flowing, high water level		
	0874_SW127_220128			28/01/2022	7.41	117.9	7.21	134.2	27.2	0.30	Clear	No odour	No sheen	No rain			
	0874_SW127_220129			29/01/2022	2.58	328.9	6.72	140.9	29.5	6.17	Pale yellow	No odour	No sheen	No rain			
	0874_SW127_220130			30/01/2022	3.21	508.0	6.46	196.2	27.5	2.53	Brown	No odour	No sheen	No rain			
Mundy Creek	0874_SW129_220126			26/01/2022	6.61	325.2	7.22	162.7	26.7	85.25	Brown	No odour	No sheen	Light Rain	Strong flow		
	0874_SW129_220127			27/01/2022	6.03	75.2	6.84	130.9	26.8	100.12	Brown	No odour	No sheen	No rain	Fast flowing, high water level.		
	0874_SW129_220128			28/01/2022	6.61	139.4	7.05	116.2	26.6	74.17	Light olive brown	No odour	No sheen	Light Rain			
	0874_SW129_220129			29/01/2022	6.21	194.4	6.94	133.4	28.9	54.36	Yellow	No odour	No sheen	No rain	Weak flow		
Mundy Creek	0874_SW129_220130			30/01/2022	6.45	418.3	6.98	150.4	27.1	51.99	Brown	No odour	No sheen	No rain			
	0874_SW108_220126			26/01/2022	6.79	537.0	6.99	134.9	27.2	3.34	Brown	No odour	No sheen	Light Rain			
	0874_SW108_220127			27/01/2022	4.19	803.0	6.65	122.3	29.5	10.49	Brown	No odour	No sheen	Heavy Rain			
	0874_SW108_220128			28/01/2022	4.72	1580.0	6.86	136.2	30.0	65.77	Light olive brown	No odour	No sheen	No rain			
Mundy Creek	0874_SW108_220129			29/01/2022	4.13	1829.0	6.67	101.8	32.9	9.23	Pale yellow	No odour	No sheen	No rain	No flow		
	0874_SW108_220130			30/01/2022	3.98	4431.0	6.92	100.9	35.7	49.09	Brown	No odour	No sheen	No rain			

On/Off-Base	Catchment	Location Code	Sample ID	Sample Date	DO mg/L	EC µS/cm	pH -	Redox (mV)	Temp (°C)	Turbidity NTU	Water Colour	Odour	Sheen	Weather	Comment
Off-Base	Mundy Creek	SW109	0874_SW109_220126	26/01/2022	6.42	942.0	6.84	120.3	27.4	50.62	Brown	No odour	No sheen	Light Rain	
			0874_SW109_220127	27/01/2022	6.09	914.0	6.75	131.9	28.9	24.36	Brown	No odour	No sheen	Heavy Rain	Tide flowing out
			0874_SW109_220128	28/01/2022	6.34	1601.0	6.97	119.6	28.6	31.79	Light olive brown	No odour	No sheen	No rain	
			0874_SW109_220129	29/01/2022	6.35	2871.0	7.00	106.3	31.6	22.25	Pale yellow	No odour	No sheen	No rain	Slow flowing, low tide
		SW115	0874_SW109_220130	30/01/2022	6.19	10904.0	7.06	117.8	33.7	22.22	Brown	No odour	Biosheen appearance	No rain	Biosheen, tide flowing out
			0874_SW115_220126	26/01/2022	6.39	233.3	6.75	162.5	27.7	27.60	Brown	No odour	No sheen	No rain	
			0874_SW115_220127	27/01/2022	5.23	196.7	7.38	140.7	29.4	17.61	Brown	No odour	No sheen	Light Rain	
			0874_SW115_220128	28/01/2022	6.14	635.0	7.00	134.6	29.5	22.23	Light olive brown	No odour	No sheen	No rain	
		SW116	0874_SW115_220129	29/01/2022	6.46	1617.0	7.01	94.1	33.0	34.82	Yellow	No odour	No sheen	No rain	Weak flow
			0874_SW115_220130	30/01/2022	6.96	2557.0	7.22	110.5	32.9	34.50	Brown	No odour	No sheen	No rain	
			0874_SW116_220126	26/01/2022	6.45	265.6	6.80	146.2	27.5	27.42	Light olive brown	No odour	No sheen	No rain	Strong flow
			0874_SW116_220127	27/01/2022	5.44	302.7	6.78	125.5	29.0	13.28	Brown	No odour	No sheen	Heavy Rain	
		SW117	0874_SW116_220128	28/01/2022	5.88	822.0	6.72	181.0	28.5	22.56	Light olive brown	No odour	No sheen	No rain	Very strong flow
			0874_SW116_220129	29/01/2022	5.69	1636.0	6.94	99.4	31.4	23.69	Yellowish brown	No odour	No sheen	No rain	Weak flow
			0874_SW116_220130	30/01/2022	5.81	3497.0	7.08	115.1	33.0	23.17	Brown	No odour	No sheen	No rain, very hot	
			0874_SW117_220126	26/01/2022	7.23	62.6	7.12	160.9	27.3	36.88	Brown	No odour	No sheen	Light Rain	
		SW118	0874_SW117_220127	27/01/2022	7.98	509.0	7.78	139.8	30.2	15.39	Brown	No odour	No sheen	Light Rain	
			0874_SW117_220128	28/01/2022	7.24	143.0	7.30	171.2	28.8	40.24	Olive yellow	No odour	No sheen	No rain	
			0874_SW117_220129	29/01/2022	9.86	1129.0	9.00	50.3	32.0	4.03	Pale yellow	No odour	Sheen	No rain	
			0874_SW117_220130	30/01/2022	3.50	1552.0	7.27	95.5	29.7	1.51	Brown	No odour	No sheen	No rain	Lots of debris on surface of water
		SW118	0874_SW118_220126	26/01/2022	6.56	84.4	7.03	164.4	27.4	23.86	Brown	No odour	No sheen	No rain	
			0874_SW118_220127	27/01/2022	4.04	331.2	6.76	149.2	27.8	13.88	Brown	No odour	No sheen	Heavy Rain	
			0874_SW118_220128	28/01/2022	5.65	200.6	7.09	176.1	28.6	19.08	Light olive brown	No odour	No sheen	No rain	
			0874_SW118_220129	29/01/2022	4.92	1014.0	7.35	111.8	30.7	4.32	Pale yellow	No odour	No sheen	No rain	No flow
		0874_SW118_220130	30/01/2022	6.89	2078.0	7.25	111.7	30.7	6.45	Yellow	No odour	No sheen	No rain		

	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamideethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamideethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamideacetic acid (EtFOSAA)	N-Methyl perfluorooctane sulfonamideacetic acid (MFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFHxS and PFOs	Sum of PFAS (WA DER List)	
LOR	0.02	0.02	0.02	0.02	0.01	0.02	0.10	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01	0.01	0.01	
PFAS NEMP Freshwater and Marine 95% Species Protection					0.13								220																			
PFAS NEMP - Recreational Use - Surface Water											10																				2	

On/Off-Base	Catchment	Location Code	Sampled Date	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTriDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorooctane sulfonamide (FOSA)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamideethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamideethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamideacetic acid (EtFOSAA)	N-Methyl perfluorooctane sulfonamideacetic acid (MFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFAS	Sum of PFHxS and PFOs	Sum of PFAS (WA DER List)	
Off-Base	Mundy Creek	SW115	26/01/2022	0.02	<0.02	0.12	<0.02	0.34	<0.02	<0.1	<0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.53	0.46	0.53	
			27/01/2022	0.03	<0.02	0.18	<0.02	0.42	<0.02	<0.1	<0.02	<0.02	<0.02	0.10	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.66	0.6	0.66
			28/01/2022	0.05	0.05	0.33	<0.02	0.59	<0.02	<0.1	<0.02	0.10	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.16	0.92	1.11
			29/01/2022	0.12	0.13	0.89	0.06	1.22	<0.02	<0.1	0.05	0.24	0.03	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.8	2.11	2.61
			30/01/2022	0.12	0.12	0.87	0.06	1.28	<0.02	<0.1	0.04	0.27	<0.05	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.83	2.15	2.65
			26/01/2022	<0.02	<0.02	0.06	<0.02	0.18	<0.02	<0.1	<0.02	0.02	<0.02	<0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.26	0.24	0.26
		27/01/2022	0.02	<0.02	0.13	<0.02	0.28	<0.02	<0.1	<0.02	0.05	<0.02	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.5	0.41	0.5	
		28/01/2022	0.04	0.04	0.28	<0.02	0.48	<0.02	<0.1	0.02	0.10	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1	0.76	0.96	
		29/01/2022	0.09	0.09	0.61	0.04	0.97	<0.02	<0.1	0.05	0.22	0.03	0.07	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	2.17	1.58	2.04	
		30/01/2022	0.08	0.07	0.52	0.03	0.62	<0.02	<0.1	<0.02	0.15	<0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.5	1.14	1.4	
		26/01/2022	<0.02	<0.02	0.07	<0.02	0.28	<0.02	<0.1	<0.02	0.03	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.39	0.35	0.39	
		27/01/2022	0.24	0.31	2.02	0.17	4.6	<0.02	0.1	0.18	0.98	0.2	0.44	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	9.24	6.62	8.76	
		28/01/2022	0.03	0.02	0.17	<0.02	0.46	<0.02	<0.1	0.02	0.08	<0.02	0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.8	0.63	0.78	
		29/01/2022	0.53	0.64	3.85	0.32	7.28	<0.02	0.2	0.38	1.73	0.3	0.62	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	15.9	11.1	14.9	
		30/01/2022	0.67	0.74	4.63	0.35	7.87	<0.02	0.3	0.43	2.12	0.37	0.76	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	18.2	12.5	17.2	
		26/01/2022	0.02	<0.02	0.1	<0.02	0.39	<0.02	<0.1	0.02	0.04	<0.02	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	0.58	0.49	0.58	
		27/01/2022	0.10	0.13	0.96	0.07	2.3	<0.02	<0.1	0.1	0.39	0.09	0.19	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	4.33	3.26	4.13	
		28/01/2022	0.04	0.04	0.29	0.02	0.62	<0.02	<0.1	<0.02	0.12	<0.02	0.04	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	1.17	0.91	1.11	
		29/01/2022	0.19	0.21	1.33	0.09	2.63	<0.02	0.1	0.14	0.56	0.11	0.21	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	5.57	3.96	5.27	
		30/01/2022	0.30	0.34	2.03	0.15	3.29	<0.02	0.1	0.18	0.95	0.17	0.30	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	7.81	5.32	7.32	

LOR is limit of reporting
 µg/L is micrograms per litre
 < denotes concentration is less than
 NEMP is National Environmental Management Plan
 Denotes first time detection above LOR
 Denotes new exceedance of ecological guideline values

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	[REDACTED]	Date:	24/02/2022
Client:	Department of Defence				
Site:	Royal Australian Air Force (RAAF) Base Townsville				
Matrix type:	Surface water	Data verified by:	JP	Date:	09/03/2022
No. of primary samples:	94 surface water				
Laboratory:	Australian Laboratory Services (Brisbane), National Measurement Institute (Sydney)	Project Manager:	CJ	01/03/2022	
Lab reference:	ET2200565, ET2200621, RN1341907				
Key Issues:	<p>No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project.</p> <p>The data are considered appropriate for use to meet the project objectives.</p>				
Field QA/QC					
Sampling personnel	Sampling was conducted by AECOM personnel between 26 and 30 January 2022.				
Sampling Methodology	Samples were collected using appropriate methods as identified within the main body of the report.				
Chain of Custody (COC)	COC documents completed as per AECOM procedures.				
Rinsate Blank	Rinsate blank samples were collected at a frequency of at least one per day of sampling (five in total). Rinsate blanks (QC300 to QC304) were collected from the decontaminated surface water sampling cup. Concentrations were reported below the LOR for all analytes tested (see Table C1).				
Trip Blanks	One trip blank sample (QC500) was collected and submitted to ALS. Trip blank reported concentrations below the LOR, see Table C2 .				
Frequency of field QC	Field duplicate (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a frequency of one in 10 primary samples for PFAS (10 duplicates, labelled QC100 to QC109 and 10 triplicates, labelled QC200 to QC209).				
Handling and preservation	<p>Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Although one cooler was delivered to the Townsville laboratory, the samples were split into two batches for transit to Brisbane. Sample receipt temperature in Townsville was reported between 8.9 and 9.1°C and recorded between 4.3 and 7°C upon arrival in Brisbane demonstrating that samples were chilled during transit.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.</p>				
Equipment Calibration	Calibration of the water quality meter was conducted daily before sampling. Calibration records are presented in Appendix F .				

Laboratory QA/QC

Tests requested/reported	Samples were analysed and reported as requested on the COC.
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the NMI (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results were reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> Matrix spikes for PFAS were below the expected rate of 5% in ET2200621. Laboratory duplicates for PFAS were below the expected rate of 10% in both batches <p>This is not expected to impact data quality as the analysis that was completed was within the required data quality indicators.</p>
Method Blank	PFAS was not detected above the LOR in any of the method blanks.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples.
Laboratory control spike recovery	No non-compliances were reported for Laboratory Control Spikes (LCS).
Matrix spike recovery	All matrix spike (MS) recoveries were within control limits.
Surrogate spike recovery	Surrogate spike recoveries were within control limits.

QA/QC Data Evaluation

Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	<p>Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels.</p> <p>LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <ul style="list-style-type: none"> EP231A (PFDS) in 0874_SW125_220126 (ET2200565) EP231B (PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA, PFTeDA) in 0874_SW125_220126 (ET2200565) EP231C (FOSA, MeFOSA, EtFOSA, MeFOSE, EtFOSE, MeFOSAA, EtFOSAA) in 0874_SW125_220126 (ET2200565) EP231D (4:2 FTS, 6:2 FTS, 8:2 FTS, 10:2 FTS) in 0874_SW125_220126 (ET2200565) EP231A (PFBS) in 0874_SW017_220130 and 0874_SW112_220130 (ET2200621) EP231B (PFPeA) in 0874_SW017_220130, 0874_SW102_220130, 0874_SW112_220130, 0874_QC108_220130 (ET2200621) EP231B (PFHpA) in 0874_SW115_220130, 0874_SW121_220130 and 0874_QC109_220130 (ET2200621).

Where the LOR was raised, it was raised for analytes not included in the relevant screening criteria. The LOR for analytes with guideline values were sufficiently low to enable assessment against relevant screening levels and this is not expected to impact data quality or interpretation.

Field duplicate RPDs

RPDs for duplicates are reported in **Table C3**. Field duplicate RPDs were reported within control limits for all samples.

Field triplicate RPDs

Field triplicate RPDs were reported within control limits with the exception of the following (the sample with the higher concentration is in bold):

- PFHxA in **0874_SW010_220127** and 0874_QC203_220127 (52%).

The non-compliant RPDs for the triplicate surface water sample is likely to be due to different extraction methods used by the laboratories. The minor non-compliance is not considered to affect the interpretation of the data as the concentrations were comparable and small differences in concentrations at low detection limits (<1 µg/L) can lead to large RPDs.

Lab Report Number	ET2200565	ET2200565	ET2200621	ET2200621	ET2200621
Field ID	0874_QC300_220126	0874_QC301_220127	0874_QC302_220128	0874_QC303_220129	0874_QC304_220130
Date	26/01/2022	27/01/2022	28/01/2022	29/01/2022	30/01/2022

Chemical Name	Unit	EQL					
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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Field ID	0874_QC500_220126
Date	26/01/2022

Chemical Name	Unit	EQL	
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01

Lab Report Number	ET2200565	ET2200565		RN1341907		ET2200565	ET2200565		RN1341907	
Field ID	0874_SW112_220126	0874_QC100_220126		0874_QC200_220126		0874_SW118_220126	0874_QC101_220126		0874_QC201_220126	
Date	26/01/2022	26/01/2022		26/01/2022		26/01/2022	26/01/2022		26/01/2022	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	0.019	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	<0.04	0.04	NC	<0.01	NC	0.02	0.02	0	0.015	29
Perfluorobutanoic acid (PFBA)	µg/L	0.1/0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.03	0.03	0	0.019	45	0.04	0.04	0	0.027	39
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	0.011	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	0.02	0.02	0	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	0.06	0.06	0	0.032	61	0.39	0.41	5	0.31	23
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.01	0.01	0	<0.01	NC	0.01	0.01	0	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.06	0.06	0	0.042	35	0.1	0.11	10	0.074	30

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	ET2200565	ET2200565		RN1341907		ET2200565	ET2200565		RN1341907	
Field ID	0874_SW127_220127	0874_QC102_220127		0874_QC202_220127		0874_SW010_220127	0874_QC103_220127		0874_QC203_220127	
Date	27/01/2022	27/01/2022		27/01/2022		27/01/2022	27/01/2022		27/01/2022	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.1	0.11	10	0.079	23
Perfluorobutanoic acid (PFBA)	µg/L	0.1/0.05	<0.1	<0.1	NC	<0.05	NC	0.1	<0.1	NC	0.075	29
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.05	0.06	18	0.027	60
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.11	0.11	0	0.066	50
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.34	0.34	0	0.2	52
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.13	0.13	0	0.069	61
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	0.1	0.1	0	0.096	4
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	<0.01	<0.01	NC	<0.02	NC	1.94	2	3	1.7	13
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.18	0.19	5	0.13	32
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.8	0.81	1	0.63	24

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	ET2200565	ET2200565		RN1341907		ET2200621	ET2200621		RN1341907	
Field ID	0874_SW132_220128	0874_QC104_220128		0874_QC204_220128		0874_SW017_220128	0874_QC105_220128		0874_QC205_220128	
Date	28/01/2022	28/01/2022		28/01/2022		28/01/2022	28/01/2022		28/01/2022	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05/0.01	<0.05	<0.05	NC	0.012	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.26	0.27	4	0.22	17	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.1/0.05	0.1	0.1	0	0.12	18	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	0.11	0.12	9	0.07	44	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	0.13	0.14	7	0.1	26	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	0.66	0.71	7	0.52	24	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	0.28	0.31	10	0.2	33	<0.02	<0.02	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.18	0.19	5	0.15	18	<0.02	<0.02	NC	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	3.79	4.3	13	3.4	11	<0.01	<0.01	NC	<0.02	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.26	0.28	7	0.22	17	<0.01	<0.01	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	1.8	1.92	6	1.6	12	<0.01	<0.01	NC	<0.01	NC

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	ET2200621	ET2200621		RN1341907		ET2200621	ET2200621		RN1341907	
Field ID	0874_SW014_220129	0874_QC106_220129		0874_QC206_220129		0874_SW102_220129	0874_QC107_220129		0874_QC207_220129	
Date	29/01/2022	29/01/2022		29/01/2022		29/01/2022	29/01/2022		29/01/2022	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.02	0.02	0	0.021	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.1/0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.03	0.03	0	0.026	14
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	0.016	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	<0.01	<0.01	NC	<0.02	NC	0.29	0.28	4	0.27	7
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	<0.01	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.15	0.16	6	0.16	6

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	ET2200621	ET2200621		RN1341907		ET2200621	ET2200621		RN1341907	
Field ID	0874_SW017_220130	0874_QC108_220130		0874_QC208_220130		0874_SW121_220130	0874_QC109_220130		0874_QC209_220130	
Date	30/01/2022	30/01/2022		30/01/2022		30/01/2022	30/01/2022		30/01/2022	
Sample Type	Primary	Duplicate	RPD	Triplicate	RPD	Primary	Duplicate	RPD	Triplicate	RPD

Chemical Name	Unit	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05/0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02/0.01	0.02	0.02	0	0.011	58	0.2	0.21	5	0.2	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.1/0.05	<0.1	<0.1	NC	<0.05	NC	0.2	0.2	0	0.24	18
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.02	0.02	0	0.014	35
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.03	<0.03	NC	0.015	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.02/0.01	<0.02	<0.02	NC	0.013	NC	0.22	0.2	10	0.19	15
Perfluorononanoic acid (PFNA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	0.14	0.13	7	0.12	15
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.03	<0.04	NC	<0.02	NC	0.12	0.11	9	0.12	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05/0.02	<0.05	<0.05	NC	<0.02	NC	<0.05	<0.05	NC	<0.02	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.02	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02/0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01/0.02	0.04	0.03	29	0.028	35	0.53	0.53	0	0.5	6
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	0.02	0.03	40	0.024	18
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.04	0.04	NC	0.027	39	0.67	0.66	2	0.65	3

*RPDs have only been considered where a concentration is greater than the EQL. Where concentration is less than LOR RPD are labelled NC for not calculated
 **Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 100 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Appendix D

Chain of Custody Records



Environmental Division
Townsville
Work Order Reference
ET2200565



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA50MP Client: AELOM Project Manager
 Phone: [Redacted]
 ALS Compass COC Reference: 32929 # Samples: 110 Sampler:
 Phone: [Redacted]

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:

SPLIT BATCH
 Test
 Assoc. Batch No.
ET2200621

Custody:

[Redacted]			
Date / Time: <u>31/1/22 1600</u>	Date / Time: <u>31/1/22 1630</u>	Date / Time:	Date / Time: <u>02.02.22 08:15</u>

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:
PROJECT MANAGER:
PRIMARY SAMPLER:
EMAIL REPORTS TO:
EMAIL INVOICES TO:CONTACT PH:
QUOTE NO: TV/007/21 - CompassSAMPLER MOBILE:
/ ET2021AECOMAU000
1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW127_220126		26/01/2022 10:23 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
002	0874_QC500_220126		26/01/2022 10:25 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_SW129_220126		26/01/2022 10:41 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
004	0874_SW014_220126		26/01/2022 11:05 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
005	0874_SW017_220126		26/01/2022 11:23 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
006	0874_SW010_220126		26/01/2022 11:50 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
007	0874_SW121_220126		26/01/2022 12:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
008	0874_SW132_220126		26/01/2022 12:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_SW112_220126		26/01/2022 02:07 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
1**SAMPLE DETAILS****ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC100_220126		26/01/2022 02:08 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
011	0874_SW125_220126		26/01/2022 02:41 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_SW131_220126		26/01/2022 03:10 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_SW016_220126		26/01/2022 03:29 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_SW102_220126		26/01/2022 03:47 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
015	0874_SW123_220126		26/01/2022 04:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Highly contaminated
016	0874_SW117_220126		26/01/2022 04:36 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra volume for lab QC
017	0874_QC101_220126		26/01/2022 04:56 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
018	0874_SW118_220126		26/01/2022 04:57 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

ALS COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
RELINQUISHED BY:

DATE TIME:
RECEIVED BY:

DATE TIME:
CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:
LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] **SAMPLER MOBILE:** [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW115_220126		26/01/2022 05:05 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
020	0874_QC300_220126		26/01/2022 05:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_SW116_220126		26/01/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
022	0874_SW109_220126		26/01/2022 05:40 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC
023	0874_SW108_220126		26/01/2022 05:47 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Extra vol for lab QC
024	0874_SW112_220127		27/01/2022 09:15 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab QC
025	0874_SW127_220127		27/01/2022 09:56 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
026	0874_QC102_220127		27/01/2022 09:57 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
027	0874_SW129_220127		27/01/2022 10:15 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 PROJECT MANAGER:
 PRIMARY SAMPLER:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

 EMAIL REPORTS TO
 EMAIL INVOICES TO

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW014_220127		27/01/2022 10:37 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
029	0874_SW017_220127		27/01/2022 10:50 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
030	0874_SW131_220127		27/01/2022 11:51 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
031	0874_SW102_220127		27/01/2022 12:03 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
032	0874_SW125_220127		27/01/2022 12:33 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
033	0874_SW123_220127		27/01/2022 01:24 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra volume lab qc
034	0874_SW121_220127		27/01/2022 01:51 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
035	0874_SW010_220127		27/01/2022 02:44 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
036	0874_QC103_220127		27/01/2022 02:45 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_SW132_220127		27/01/2022 02:53 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
038	0874_SW117_220127		27/01/2022 03:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
039	0874_SW115_220127		27/01/2022 03:23 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
040	0874_SW116_220127		27/01/2022 03:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
041	0874_SW109_220127		27/01/2022 03:48 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
042	0874_SW108_220127		27/01/2022 03:58 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
043	0874_SW118_220127		27/01/2022 04:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
044	0874_QC301_220127		27/01/2022 04:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
045	0874_SW131_220128		28/01/2022 09:24 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SW016_220128		28/01/2022 09:51 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
047	0874_SW102_220128		28/01/2022 10:11 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC
048	0874_SW125_220128		28/01/2022 10:47 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
049	0874_SW123_220128		28/01/2022 10:57 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
050	0874_SW132_220128		28/01/2022 11:16 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
051	0874_QC104_220128		28/01/2022 11:17 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
052	0874_SW010_220128		28/01/2022 11:28 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC
053	0874_SW121_220128		28/01/2022 11:49 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
054	0874_SW127_220128		28/01/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW127_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC500_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW129_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW014_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW017_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW010_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW121_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW132_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW112_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC100_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW125_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW131_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW016_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW102_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW123_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFASOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:**LABORATORY USE ONLY (Circle)**
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/APROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO [REDACTED]
EMAIL INVOICES TO [REDACTED]CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1Random Sample Temperature on Receipt: °C
Other comments:

016	0874_SW117_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_QC101_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SW118_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_SW115_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC300_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SW116_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_SW109_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW108_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SW112_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_SW127_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_QC102_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SW129_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SW014_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SW017_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SW131_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_SW102_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

 PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]

 CONTACT PH: [Redacted] SAMPLER MOBILE: [Redacted]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

032	0874_SW125_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_SW123_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_SW121_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_SW010_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_QC103_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_SW132_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_SW117_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_SW115_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_SW116_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_SW109_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_SW108_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_SW118_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_QC301_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_SW131_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_SW016_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_SW102_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFASOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:**LABORATORY USE ONLY (Circle)**
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:PROJECT MANAGER:
PRIMARY SAMPLER:
EMAIL REPORTS TO
EMAIL INVOICES TOCONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

048	0874_SW125_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_SW123_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_SW132_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_QC104_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_SW010_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_SW121_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_SW127_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_SW112_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_SW014_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_SW017_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_QC105_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_SW117_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_SW118_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_SW116_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_SW109_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_SW108_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO [REDACTED]
 EMAIL INVOICES TO [REDACTED]

 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

064	0874_QC302_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_SW115_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_SW112_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_SW014_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_QC106_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_SW127_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
070	0874_SW129_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_SW017_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
072	0874_SW125_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
073	0874_SW131_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_SW102_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
075	0874_QC107_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
076	0874_SW016_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
077	0874_SW123_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
078	0874_SW010_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
079	0874_SW132_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

080	0874_SW121_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
081	0874_SW117_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
082	0874_SW118_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
083	0874_SW115_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
084	0874_SW116_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
085	0874_SW109_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
086	0874_SW108_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
087	0874_QC303_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
088	0874_SW127_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
089	0874_SW129_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
090	0874_SW112_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
091	0874_SW014_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
092	0874_SW017_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
093	0874_QC108_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
094	0874_SW125_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
095	0874_SW131_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

096	0874_SW016_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
097	0874_SW102_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
098	0874_SW123_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
099	0874_SW010_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
100	0874_SW132_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
101	0874_SW121_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
102	0874_QC109_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
103	0874_SW117_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
104	0874_SW118_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
105	0874_SW115_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
106	0874_SW116_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
107	0874_SW109_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
108	0874_SW108_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
109	0874_QC304_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
110	0874_SW129_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_220126	HDPE (no PTFE)	20 mL	00350621050989	Grey	No	
001	0874_SW127_220126	HDPE (no PTFE)	20 mL	00350621050997	Grey	No	
002	0874_QC500_220126	HDPE (no PTFE)	20 mL	00352101053143	Grey	No	
002	0874_QC500_220126	HDPE (no PTFE)	20 mL	00352101053128	Grey	No	
003	0874_SW129_220126	HDPE (no PTFE)	20 mL	00350621050912	Grey	No	
003	0874_SW129_220126	HDPE (no PTFE)	20 mL	00350621051103	Grey	No	
004	0874_SW014_220126	HDPE (no PTFE)	20 mL	00350621051010	Grey	No	
004	0874_SW014_220126	HDPE (no PTFE)	20 mL	00350621051040	Grey	No	
005	0874_SW017_220126	HDPE (no PTFE)	20 mL	00350621050824	Grey	No	
005	0874_SW017_220126	HDPE (no PTFE)	20 mL	00350621050817	Grey	No	
006	0874_SW010_220126	HDPE (no PTFE)	20 mL	00350621050955	Grey	No	
006	0874_SW010_220126	HDPE (no PTFE)	20 mL	00350621051039	Grey	No	
007	0874_SW121_220126	HDPE (no PTFE)	20 mL	00350621051105	Grey	No	
007	0874_SW121_220126	HDPE (no PTFE)	20 mL	00350621051059	Grey	No	
008	0874_SW132_220126	HDPE (no PTFE)	20 mL	00350621050835	Grey	No	
008	0874_SW132_220126	HDPE (no PTFE)	20 mL	00350621051058	Grey	No	
009	0874_SW112_220126	HDPE (no PTFE)	20 mL	00350621051051	Grey	No	
009	0874_SW112_220126	HDPE (no PTFE)	20 mL	00350621051097	Grey	No	
010	0874_QC100_220126	HDPE (no PTFE)	20 mL	00350621051082	Grey	No	
010	0874_QC100_220126	HDPE (no PTFE)	20 mL	00350621050986	Grey	No	
011	0874_SW125_220126	HDPE (no PTFE)	20 mL	00350621051041	Grey	No	
011	0874_SW125_220126	HDPE (no PTFE)	20 mL	00350621050834	Grey	No	
012	0874_SW131_220126	HDPE (no PTFE)	20 mL	00350621050846	Grey	No	
012	0874_SW131_220126	HDPE (no PTFE)	20 mL	00350621050893	Grey	No	
013	0874_SW016_220126	HDPE (no PTFE)	20 mL	00350621051099	Grey	No	
013	0874_SW016_220126	HDPE (no PTFE)	20 mL	00350621051083	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014	0874_SW102_220126	HDPE (no PTFE)	20 mL	00350621050933	Grey	No	
014	0874_SW102_220126	HDPE (no PTFE)	20 mL	00350621050930	Grey	No	
015	0874_SW123_220126	HDPE (no PTFE)	20 mL	00350621050812	Grey	No	
015	0874_SW123_220126	HDPE (no PTFE)	20 mL	00350621050819	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621050814	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621050887	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621051049	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621051100	Grey	No	
017	0874_QC101_220126	HDPE (no PTFE)	20 mL	00350621051036	Grey	No	
017	0874_QC101_220126	HDPE (no PTFE)	20 mL	00350621050951	Grey	No	
018	0874_SW118_220126	HDPE (no PTFE)	20 mL	00350621050822	Grey	No	
018	0874_SW118_220126	HDPE (no PTFE)	20 mL	00350621050874	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350821050852	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621050935	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621050957	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621051109	Grey	No	
020	0874_QC300_220126	HDPE (no PTFE)	20 mL	00350621050875	Grey	No	
020	0874_QC300_220126	HDPE (no PTFE)	20 mL	00350621050996	Grey	No	
021	0874_SW116_220126	HDPE (no PTFE)	20 mL	00350621050854	Grey	No	
021	0874_SW116_220126	HDPE (no PTFE)	20 mL	00350621050922	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051106	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051048	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051088	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051043	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621050894	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621051042	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621050991	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO

EMAIL INVOICES TO

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621051076	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621051087	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050863	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050890	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050973	Grey	No	
025	0874_SW127_220127	HDPE (no PTFE)	20 mL	00350621050950	Grey	No	
025	0874_SW127_220127	HDPE (no PTFE)	20 mL	00350621051104	Grey	No	
026	0874_QC102_220127	HDPE (no PTFE)	20 mL	00350621051107	Grey	No	
026	0874_QC102_220127	HDPE (no PTFE)	20 mL	00350621050892	Grey	No	
027	0874_SW129_220127	HDPE (no PTFE)	20 mL	00350621050877	Grey	No	
027	0874_SW129_220127	HDPE (no PTFE)	20 mL	00350621050901	Grey	No	
028	0874_SW014_220127	HDPE (no PTFE)	20 mL	00350621050947	Grey	No	
028	0874_SW014_220127	HDPE (no PTFE)	20 mL	00350621050969	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050953	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621051073	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050868	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050896	Grey	No	
030	0874_SW131_220127	HDPE (no PTFE)	20 mL	00350621050928	Grey	No	
030	0874_SW131_220127	HDPE (no PTFE)	20 mL	00350621050967	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621051038	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050861	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050920	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050854	Grey	No	
032	0874_SW125_220127	HDPE (no PTFE)	20 mL	00350621051027	Grey	No	
032	0874_SW125_220127	HDPE (no PTFE)	20 mL	00350621050934	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621050869	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621051017	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621050813	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621050978	Grey	No	
034	0874_SW121_220127	HDPE (no PTFE)	20 mL	00350621051091	Grey	No	
034	0874_SW121_220127	HDPE (no PTFE)	20 mL	00350621050876	Grey	No	
035	0874_SW010_220127	HDPE (no PTFE)	20 mL	00350621051090	Grey	No	
035	0874_SW010_220127	HDPE (no PTFE)	20 mL	00350621051020	Grey	No	
036	0874_QC103_220127	HDPE (no PTFE)	20 mL	00350621051080	Grey	No	
036	0874_QC103_220127	HDPE (no PTFE)	20 mL	00350621050974	Grey	No	
037	0874_SW132_220127	HDPE (no PTFE)	20 mL	00350621051008	Grey	No	
037	0874_SW132_220127	HDPE (no PTFE)	20 mL	00350621050924	Grey	No	
038	0874_SW117_220127	HDPE (no PTFE)	20 mL	00350621050988	Grey	No	
038	0874_SW117_220127	HDPE (no PTFE)	20 mL	00350621050956	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050811	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050987	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050990	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050937	Grey	No	
040	0874_SW116_220127	HDPE (no PTFE)	20 mL	00350621050998	Grey	No	
040	0874_SW116_220127	HDPE (no PTFE)	20 mL	00350621051093	Grey	No	
041	0874_SW109_220127	HDPE (no PTFE)	20 mL	00350621050932	Grey	No	
041	0874_SW109_220127	HDPE (no PTFE)	20 mL	00350621050980	Grey	No	
042	0874_SW108_220127	HDPE (no PTFE)	20 mL	00350621050832	Grey	No	
042	0874_SW108_220127	HDPE (no PTFE)	20 mL	00350621050902	Grey	No	
043	0874_SW118_220127	HDPE (no PTFE)	20 mL	00350621051030	Grey	No	
043	0874_SW118_220127	HDPE (no PTFE)	20 mL	00350621050915	Grey	No	
044	0874_QC301_220127	HDPE (no PTFE)	20 mL	00350621051068	Grey	No	
044	0874_QC301_220127	HDPE (no PTFE)	20 mL	00350621051045	Grey	No	
045	0874_SW131_220128	HDPE (no PTFE)	20 mL	00350621050999	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]
EMAIL INVOICES TO: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

045	0874_SW131_220128	HDPE (no PTFE)	20 mL	00350621051096	Grey	No	
046	0874_SW016_220128	HDPE (no PTFE)	20 mL	00350621051064	Grey	No	
046	0874_SW016_220128	HDPE (no PTFE)	20 mL	00350621050958	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621050855	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621050959	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621051035	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621051052	Grey	No	
048	0874_SW125_220128	HDPE (no PTFE)	20 mL	00350621050825	Grey	No	
048	0874_SW125_220128	HDPE (no PTFE)	20 mL	00350621051029	Grey	No	
049	0874_SW123_220128	HDPE (no PTFE)	20 mL	00350621050858	Grey	No	
049	0874_SW123_220128	HDPE (no PTFE)	20 mL	00350621050831	Grey	No	
050	0874_SW132_220128	HDPE (no PTFE)	20 mL	00350621050903	Grey	No	
050	0874_SW132_220128	HDPE (no PTFE)	20 mL	00350621050891	Grey	No	
051	0874_QC104_220128	HDPE (no PTFE)	20 mL	00350621050948	Grey	No	
051	0874_QC104_220128	HDPE (no PTFE)	20 mL	00350621050966	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621051066	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621051032	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621050842	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621050952	Grey	No	
053	0874_SW121_220128	HDPE (no PTFE)	20 mL	00350621050892	Grey	No	
053	0874_SW121_220128	HDPE (no PTFE)	20 mL	00350621051021	Grey	No	
054	0874_SW127_220128	HDPE (no PTFE)	20 mL	00350621051101	Grey	No	
054	0874_SW127_220128	HDPE (no PTFE)	20 mL	00350621051095	Grey	No	
055	0874_SW112_220128	HDPE (no PTFE)	20 mL	00350621051044	Grey	No	
055	0874_SW112_220128	HDPE (no PTFE)	20 mL	00350621051007	Grey	No	
056	0874_SW014_220128	HDPE (no PTFE)	20 mL	00350621050939	Grey	No	
056	0874_SW014_220128	HDPE (no PTFE)	20 mL	00350621050843	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1.

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

057	0874_SW017_220128	HDPE (no PTFE)	20 mL	00350621051061	Grey	No	
057	0874_SW017_220128	HDPE (no PTFE)	20 mL	00350621050970	Grey	No	
058	0874_QC105_220128	HDPE (no PTFE)	20 mL	00350621051046	Grey	No	
058	0874_QC105_220128	HDPE (no PTFE)	20 mL	00350621051070	Grey	No	
059	0874_SW117_220128	HDPE (no PTFE)	20 mL	00350621050829	Grey	No	
059	0874_SW117_220128	HDPE (no PTFE)	20 mL	00350621051057	Grey	No	
060	0874_SW118_220128	HDPE (no PTFE)	20 mL	00350621050929	Grey	No	
060	0874_SW118_220128	HDPE (no PTFE)	20 mL	00350621050931	Grey	No	
061	0874_SW116_220128	HDPE (no PTFE)	20 mL	00350621051092	Grey	No	
061	0874_SW116_220128	HDPE (no PTFE)	20 mL	00350621050916	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050841	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050908	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050853	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050960	Grey	No	
063	0874_SW108_220128	HDPE (no PTFE)	20 mL	00350621050821	Grey	No	
063	0874_SW108_220128	HDPE (no PTFE)	20 mL	00350621051011	Grey	No	
064	0874_QC302_220128	HDPE (no PTFE)	20 mL	00350621051086	Grey	No	
064	0874_QC302_220128	HDPE (no PTFE)	20 mL	00350621050936	Grey	No	
065	0874_SW115_220128	HDPE (no PTFE)	20 mL	00350621050836	Grey	No	
065	0874_SW115_220128	HDPE (no PTFE)	20 mL	00350621050881	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051028	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051075	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051012	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051072	Grey	No	
067	0874_SW014_220129	HDPE (no PTFE)	20 mL	00350621051050	Grey	No	
067	0874_SW014_220129	HDPE (no PTFE)	20 mL	00350621050845	Grey	No	
068	0874_QC106_220129	HDPE (no PTFE)	20 mL	00350621050993	Grey	No	

**CHAIN OF CUSTODY**

ALS COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

068	0874_QC106_220129	HDPE (no PTFE)	20 mL	00350621050961	Grey	No	
069	0874_SW127_220129	HDPE (no PTFE)	20 mL	00350621050909	Grey	No	
069	0874_SW127_220129	HDPE (no PTFE)	20 mL	00350621050917	Grey	No	
070	0874_SW129_220129	HDPE (no PTFE)	20 mL	00350621051025	Grey	No	
070	0874_SW129_220129	HDPE (no PTFE)	20 mL	00350621051037	Grey	No	
071	0874_SW017_220129	HDPE (no PTFE)	20 mL	00350621050949	Grey	No	
071	0874_SW017_220129	HDPE (no PTFE)	20 mL	00350621051026	Grey	No	
072	0874_SW125_220129	HDPE (no PTFE)	20 mL	00350621050910	Grey	No	
072	0874_SW125_220129	HDPE (no PTFE)	20 mL	00350621050944	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051077	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621050823	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051000	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051102	Grey	No	
074	0874_SW102_220129	HDPE (no PTFE)	20 mL	00350621050977	Grey	No	
074	0874_SW102_220129	HDPE (no PTFE)	20 mL	00350621050830	Grey	No	
075	0874_QC107_220129	HDPE (no PTFE)	20 mL	00350621050979	Grey	No	
075	0874_QC107_220129	HDPE (no PTFE)	20 mL	00350621051054	Grey	No	
076	0874_SW016_220129	HDPE (no PTFE)	20 mL	00350621050982	Grey	No	
076	0874_SW016_220129	HDPE (no PTFE)	20 mL	00350621050810	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050820	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050850	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621051016	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050837	Grey	No	
078	0874_SW010_220129	HDPE (no PTFE)	20 mL	00350621050862	Grey	No	
078	0874_SW010_220129	HDPE (no PTFE)	20 mL	00350621050833	Grey	No	
079	0874_SW132_220129	HDPE (no PTFE)	20 mL	00350621050851	Grey	No	
079	0874_SW132_220129	HDPE (no PTFE)	20 mL	00350621050849	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:CLIENT: AECOMAU - AECOM Australia Pty Ltd
PROJECT: QLD_0874_PFSOMP
SITE: QLD_0874
ORDER NO: 60612487_2.1TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:**LABORATORY USE ONLY (Circle)**
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: C
Other comments:PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]
EMAIL REPORTS TO: [REDACTED]
EMAIL INVOICES TO: [REDACTED]CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

080	0874_SW121_220129	HDPE (no PTFE)	20 mL	00350621050864	Grey	No	
080	0874_SW121_220129	HDPE (no PTFE)	20 mL	00350621051089	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621051015	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050911	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050914	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050859	Grey	No	
082	0874_SW118_220129	HDPE (no PTFE)	20 mL	00350621050838	Grey	No	
082	0874_SW118_220129	HDPE (no PTFE)	20 mL	00350621050879	Grey	No	
083	0874_SW115_220129	HDPE (no PTFE)	20 mL	00350621050870	Grey	No	
083	0874_SW115_220129	HDPE (no PTFE)	20 mL	00350621051047	Grey	No	
084	0874_SW116_220129	HDPE (no PTFE)	20 mL	00350621050828	Grey	No	
084	0874_SW116_220129	HDPE (no PTFE)	20 mL	00350621050816	Grey	No	
085	0874_SW109_220129	HDPE (no PTFE)	20 mL	00350621050815	Grey	No	
085	0874_SW109_220129	HDPE (no PTFE)	20 mL	00350621050882	Grey	No	
086	0874_SW108_220129	HDPE (no PTFE)	20 mL	00350621050847	Grey	No	
086	0874_SW108_220129	HDPE (no PTFE)	20 mL	00350621050827	Grey	No	
087	0874_QC303_220129	HDPE (no PTFE)	20 mL	00350621051009	Grey	No	
087	0874_QC303_220129	HDPE (no PTFE)	20 mL	00350621050994	Grey	No	
088	0874_SW127_220130	HDPE (no PTFE)	20 mL	00350621050983	Grey	No	
088	0874_SW127_220130	HDPE (no PTFE)	20 mL	00350621050844	Grey	No	
089	0874_SW129_220130	HDPE (no PTFE)	20 mL	00350621050840	Grey	No	
089	0874_SW129_220130	HDPE (no PTFE)	20 mL	00350621050900	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621050866	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621051023	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621051098	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621050885	Grey	No	
091	0874_SW014_220130	HDPE (no PTFE)	20 mL	00350621050962	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

091	0874_SW014_220130	HDPE (no PTFE)	20 mL	00350621050904	Grey	No	
092	0874_SW017_220130	HDPE (no PTFE)	20 mL	00350621050923	Grey	No	
092	0874_SW017_220130	HDPE (no PTFE)	20 mL	00350621050880	Grey	No	
093	0874_QC108_220130	HDPE (no PTFE)	20 mL	00350621050867	Grey	No	
093	0874_QC108_220130	HDPE (no PTFE)	20 mL	00350621050981	Grey	No	
094	0874_SW125_220130	HDPE (no PTFE)	20 mL	00350621050857	Grey	No	
094	0874_SW125_220130	HDPE (no PTFE)	20 mL	00350621050907	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051033	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051085	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051013	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621050995	Grey	No	
096	0874_SW016_220130	HDPE (no PTFE)	20 mL	00350621050965	Grey	No	
096	0874_SW016_220130	HDPE (no PTFE)	20 mL	00350621050964	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621051003	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621051018	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621050860	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621050873	Grey	No	
098	0874_SW123_220130	HDPE (no PTFE)	20 mL	00350621050984	Grey	No	
098	0874_SW123_220130	HDPE (no PTFE)	20 mL	00350621050905	Grey	No	
099	0874_SW010_220130	HDPE (no PTFE)	20 mL	00350621050945	Grey	No	
099	0874_SW010_220130	HDPE (no PTFE)	20 mL	00350621051078	Grey	No	
100	0874_SW132_220130	HDPE (no PTFE)	20 mL	00350621050872	Grey	No	
100	0874_SW132_220130	HDPE (no PTFE)	20 mL	00350621050941	Grey	No	
101	0874_SW121_220130	HDPE (no PTFE)	20 mL	00350621050895	Grey	No	
101	0874_SW121_220130	HDPE (no PTFE)	20 mL	00350621050921	Grey	No	
102	0874_QC109_220130	HDPE (no PTFE)	20 mL	00350621050919	Grey	No	
102	0874_QC109_220130	HDPE (no PTFE)	20 mL	00350621050865	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

103	0874_SW117_220130	HDPE (no PTFE)	20 mL	00350621050927	Grey	No	
103	0874_SW117_220130	HDPE (no PTFE)	20 mL	00350621050886	Grey	No	
104	0874_SW118_220130	HDPE (no PTFE)	20 mL	00350621050985	Grey	No	
104	0874_SW118_220130	HDPE (no PTFE)	20 mL	00350621050839	Grey	No	
105	0874_SW115_220130	HDPE (no PTFE)	20 mL	00350621051074	Grey	No	
105	0874_SW115_220130	HDPE (no PTFE)	20 mL	00350621050971	Grey	No	
106	0874_SW116_220130	HDPE (no PTFE)	20 mL	00350621050856	Grey	No	
106	0874_SW116_220130	HDPE (no PTFE)	20 mL	00350621050940	Grey	No	
107	0874_SW109_220130	HDPE (no PTFE)	20 mL	00350621051022	Grey	No	
107	0874_SW109_220130	HDPE (no PTFE)	20 mL	00350621050925	Grey	No	
108	0874_SW108_220130	HDPE (no PTFE)	20 mL	00350621051034	Grey	No	
108	0874_SW108_220130	HDPE (no PTFE)	20 mL	00350621051024	Grey	No	
109	0874_QC304_220130	HDPE (no PTFE)	20 mL	00350621051063	Grey	No	
109	0874_QC304_220130	HDPE (no PTFE)	20 mL	00350621050888	Grey	No	
110	0874_SW129_220128	HDPE (no PTFE)	20 mL	00350621050818	Grey	No	
110	0874_SW129_220128	HDPE (no PTFE)	20 mL	00350621050926	Grey	No	

Total Bottle Count: ALS: 258, Non ALS: 0



Environmental Division
Townsville

Work Order Reference
ET2200621



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD_0874_PFA50MP Client: AECOM

Project Manager

Phone:

ALS Compass COC Reference: 32929 # Samples: 110

Sampler:

Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:

SPLIT BATCH

Test

Assoc. Batch No.

ET2200565

Custody:

Date / Time:

31/1/22 1600

Date / Time:

31/1/22 1630

Date / Time:

Date / Time:

02.02.22 08:15

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ADDITIONAL INFORMATION
							Water	WATER	
055	0874_SW112_220128		28/01/2022 01:38 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
056	0874_SW014_220128		28/01/2022 02:01 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
057	0874_SW017_220128		28/01/2022 02:15 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
058	0874_QC105_220128		28/01/2022 02:16 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
059	0874_SW117_220128		28/01/2022 02:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
060	0874_SW118_220128		28/01/2022 02:37 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
061	0874_SW116_220128		28/01/2022 02:49 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results
062	0874_SW109_220128		28/01/2022 03:03 PM	Water	ALS: 4 Non ALS: 0	No	Partial	WATER	Contamination: Previous results Extra vol lab qc
063	0874_SW108_220128		28/01/2022 03:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial	WATER	Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_QC302_220128		28/01/2022 03:25 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
065	0874_SW115_220128		28/01/2022 03:26 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
066	0874_SW112_220129		29/01/2022 09:17 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
067	0874_SW014_220129		29/01/2022 09:36 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
068	0874_QC106_220129		29/01/2022 09:37 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
069	0874_SW127_220129		29/01/2022 09:58 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
070	0874_SW129_220129		29/01/2022 10:14 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
071	0874_SW017_220129		29/01/2022 10:32 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
072	0874_SW125_220129		29/01/2022 11:22 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0874_SW131_220129		29/01/2022 11:43 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
074	0874_SW102_220129		29/01/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
075	0874_QC107_220129		29/01/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
076	0874_SW016_220129		29/01/2022 12:18 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
077	0874_SW123_220129		29/01/2022 12:38 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc
078	0874_SW010_220129		29/01/2022 12:51 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
079	0874_SW132_220129		29/01/2022 01:00 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
080	0874_SW121_220129		29/01/2022 01:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
081	0874_SW117_220129		29/01/2022 01:40 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol lab qc

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0874_SW118_220129		29/01/2022 01:52 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
083	0874_SW115_220129		29/01/2022 01:59 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
084	0874_SW116_220129		29/01/2022 02:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
085	0874_SW109_220129		29/01/2022 02:24 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
086	0874_SW108_220129		29/01/2022 02:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
087	0874_QC303_220129		29/01/2022 02:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
088	0874_SW127_220130		30/01/2022 08:37 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
089	0874_SW129_220130		30/01/2022 08:50 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
090	0874_SW112_220130		30/01/2022 09:28 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Water WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0874_SW014_220130		30/01/2022 09:50 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
092	0874_SW017_220130		30/01/2022 10:04 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
093	0874_QC108_220130		30/01/2022 10:05 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
094	0874_SW125_220130		30/01/2022 10:25 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
095	0874_SW131_220130		30/01/2022 10:51 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC
096	0874_SW016_220130		30/01/2022 11:10 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
097	0874_SW102_220130		30/01/2022 11:27 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Contamination: Previous results Extra vol for lab QC
098	0874_SW123_220130		30/01/2022 11:48 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
099	0874_SW010_220130		30/01/2022 12:11 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0874_SW132_220130		30/01/2022 12:21 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
101	0874_SW121_220130		30/01/2022 12:43 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
102	0874_QC109_220130		30/01/2022 12:44 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
103	0874_SW117_220130		30/01/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
104	0874_SW118_220130		30/01/2022 01:21 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
105	0874_SW115_220130		30/01/2022 01:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
106	0874_SW116_220130		30/01/2022 01:42 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
107	0874_SW109_220130		30/01/2022 02:03 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results
108	0874_SW108_220130		30/01/2022 02:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY****(ALS) COC#: 32929** ALS Laboratory: ET Townsville**RELINQUISHED BY:****RECEIVED BY:****RELINQUISHED BY:****RECEIVED BY:**

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ADDITIONAL INFORMATION
							Waters WATER	ALTERNATIVE ANALYSIS	
109	0874_QC304_220130		30/01/2022 02:18 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
110	0874_SW129_220128		28/01/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		Contamination: Previous results

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW127_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC500_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW129_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW014_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW017_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW010_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW121_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW132_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW112_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC100_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW125_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW131_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW016_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW102_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW123_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

016	0874_SW117_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_QC101_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SW118_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_SW115_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC300_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SW116_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_SW109_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW108_220126	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SW112_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_SW127_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_QC102_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SW129_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SW014_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SW017_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SW131_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_SW102_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

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DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

032	0874_SW125_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_SW123_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_SW121_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_SW010_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_QC103_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_SW132_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_SW117_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_SW115_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_SW116_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_SW109_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_SW108_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_SW118_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_QC301_220127	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_SW131_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_SW016_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_SW102_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

048	0874_SW125_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_SW123_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_SW132_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_QC104_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_SW010_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_SW121_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_SW127_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_SW112_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_SW014_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_SW017_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_QC105_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_SW117_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_SW118_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_SW116_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_SW109_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_SW108_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

064	0874_QC302_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_SW115_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_SW112_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_SW014_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_QC106_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_SW127_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
070	0874_SW129_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_SW017_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
072	0874_SW125_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
073	0874_SW131_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_SW102_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
075	0874_QC107_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
076	0874_SW016_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
077	0874_SW123_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
078	0874_SW010_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
079	0874_SW132_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

080	0874_SW121_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
081	0874_SW117_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
082	0874_SW118_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
083	0874_SW115_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
084	0874_SW116_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
085	0874_SW109_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
086	0874_SW108_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
087	0874_QC303_220129	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
088	0874_SW127_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
089	0874_SW129_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
090	0874_SW112_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
091	0874_SW014_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
092	0874_SW017_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
093	0874_QC108_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
094	0874_SW125_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
095	0874_SW131_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

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DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

096	0874_SW016_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
097	0874_SW102_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
098	0874_SW123_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
099	0874_SW010_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
100	0874_SW132_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
101	0874_SW121_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
102	0874_QC109_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
103	0874_SW117_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
104	0874_SW118_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
105	0874_SW115_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
106	0874_SW116_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
107	0874_SW109_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
108	0874_SW108_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
109	0874_QC304_220130	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
110	0874_SW129_220128	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_220126	HDPE (no PTFE)	20 mL	00350621050989	Grey	No	
001	0874_SW127_220126	HDPE (no PTFE)	20 mL	00350621050997	Grey	No	
002	0874_QC500_220126	HDPE (no PTFE)	20 mL	00352101053143	Grey	No	
002	0874_QC500_220126	HDPE (no PTFE)	20 mL	00352101053128	Grey	No	
003	0874_SW129_220126	HDPE (no PTFE)	20 mL	00350621050912	Grey	No	
003	0874_SW129_220126	HDPE (no PTFE)	20 mL	00350621051103	Grey	No	
004	0874_SW014_220126	HDPE (no PTFE)	20 mL	00350621051010	Grey	No	
004	0874_SW014_220126	HDPE (no PTFE)	20 mL	00350621051040	Grey	No	
005	0874_SW017_220126	HDPE (no PTFE)	20 mL	00350621050824	Grey	No	
005	0874_SW017_220126	HDPE (no PTFE)	20 mL	00350621050817	Grey	No	
006	0874_SW010_220126	HDPE (no PTFE)	20 mL	00350621050955	Grey	No	
006	0874_SW010_220126	HDPE (no PTFE)	20 mL	00350621051039	Grey	No	
007	0874_SW121_220126	HDPE (no PTFE)	20 mL	00350621051105	Grey	No	
007	0874_SW121_220126	HDPE (no PTFE)	20 mL	00350621051059	Grey	No	
008	0874_SW132_220126	HDPE (no PTFE)	20 mL	00350621050835	Grey	No	
008	0874_SW132_220126	HDPE (no PTFE)	20 mL	00350621051058	Grey	No	
009	0874_SW112_220126	HDPE (no PTFE)	20 mL	00350621051051	Grey	No	
009	0874_SW112_220126	HDPE (no PTFE)	20 mL	00350621051097	Grey	No	
010	0874_QC100_220126	HDPE (no PTFE)	20 mL	00350621051082	Grey	No	
010	0874_QC100_220126	HDPE (no PTFE)	20 mL	00350621050986	Grey	No	
011	0874_SW125_220126	HDPE (no PTFE)	20 mL	00350621051041	Grey	No	
011	0874_SW125_220126	HDPE (no PTFE)	20 mL	00350621050834	Grey	No	
012	0874_SW131_220126	HDPE (no PTFE)	20 mL	00350621050846	Grey	No	
012	0874_SW131_220126	HDPE (no PTFE)	20 mL	00350621050893	Grey	No	
013	0874_SW016_220126	HDPE (no PTFE)	20 mL	00350621051099	Grey	No	
013	0874_SW016_220126	HDPE (no PTFE)	20 mL	00350621051083	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

014	0874_SW102_220126	HDPE (no PTFE)	20 mL	00350621050933	Grey	No	
014	0874_SW102_220126	HDPE (no PTFE)	20 mL	00350621050930	Grey	No	
015	0874_SW123_220126	HDPE (no PTFE)	20 mL	00350621050812	Grey	No	
015	0874_SW123_220126	HDPE (no PTFE)	20 mL	00350621050819	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621050814	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621050887	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621051049	Grey	No	
016	0874_SW117_220126	HDPE (no PTFE)	20 mL	00350621051100	Grey	No	
017	0874_QC101_220126	HDPE (no PTFE)	20 mL	00350621051036	Grey	No	
017	0874_QC101_220126	HDPE (no PTFE)	20 mL	00350621050951	Grey	No	
018	0874_SW118_220126	HDPE (no PTFE)	20 mL	00350621050822	Grey	No	
018	0874_SW118_220126	HDPE (no PTFE)	20 mL	00350621050874	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621050852	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621050935	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621050957	Grey	No	
019	0874_SW115_220126	HDPE (no PTFE)	20 mL	00350621051109	Grey	No	
020	0874_QC300_220126	HDPE (no PTFE)	20 mL	00350621050875	Grey	No	
020	0874_QC300_220126	HDPE (no PTFE)	20 mL	00350621050996	Grey	No	
021	0874_SW116_220126	HDPE (no PTFE)	20 mL	00350621050954	Grey	No	
021	0874_SW116_220126	HDPE (no PTFE)	20 mL	00350621050922	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051106	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051048	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051088	Grey	No	
022	0874_SW109_220126	HDPE (no PTFE)	20 mL	00350621051043	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621050894	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621051042	Grey	No	
023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621050991	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

023	0874_SW108_220126	HDPE (no PTFE)	20 mL	00350621051076	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621051087	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050863	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050890	Grey	No	
024	0874_SW112_220127	HDPE (no PTFE)	20 mL	00350621050973	Grey	No	
025	0874_SW127_220127	HDPE (no PTFE)	20 mL	00350621050950	Grey	No	
025	0874_SW127_220127	HDPE (no PTFE)	20 mL	00350621051104	Grey	No	
025	0874_SW127_220127	HDPE (no PTFE)	20 mL	00350621051107	Grey	No	
026	0874_QC102_220127	HDPE (no PTFE)	20 mL	00350621050892	Grey	No	
026	0874_QC102_220127	HDPE (no PTFE)	20 mL	00350621050877	Grey	No	
027	0874_SW129_220127	HDPE (no PTFE)	20 mL	00350621050901	Grey	No	
027	0874_SW129_220127	HDPE (no PTFE)	20 mL	00350621050947	Grey	No	
028	0874_SW014_220127	HDPE (no PTFE)	20 mL	00350621050969	Grey	No	
028	0874_SW014_220127	HDPE (no PTFE)	20 mL	00350621050953	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621051073	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050868	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050896	Grey	No	
029	0874_SW017_220127	HDPE (no PTFE)	20 mL	00350621050928	Grey	No	
030	0874_SW131_220127	HDPE (no PTFE)	20 mL	00350621050967	Grey	No	
030	0874_SW131_220127	HDPE (no PTFE)	20 mL	00350621051038	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050861	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050920	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621050854	Grey	No	
031	0874_SW102_220127	HDPE (no PTFE)	20 mL	00350621051027	Grey	No	
032	0874_SW125_220127	HDPE (no PTFE)	20 mL	00350621050934	Grey	No	
032	0874_SW125_220127	HDPE (no PTFE)	20 mL	00350621050869	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621051017	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621051017	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621050813	Grey	No	
033	0874_SW123_220127	HDPE (no PTFE)	20 mL	00350621050978	Grey	No	
034	0874_SW121_220127	HDPE (no PTFE)	20 mL	00350621051091	Grey	No	
034	0874_SW121_220127	HDPE (no PTFE)	20 mL	00350621050876	Grey	No	
035	0874_SW010_220127	HDPE (no PTFE)	20 mL	00350621051090	Grey	No	
035	0874_SW010_220127	HDPE (no PTFE)	20 mL	00350621051020	Grey	No	
036	0874_QC103_220127	HDPE (no PTFE)	20 mL	00350621051080	Grey	No	
036	0874_QC103_220127	HDPE (no PTFE)	20 mL	00350621050974	Grey	No	
037	0874_SW132_220127	HDPE (no PTFE)	20 mL	00350621051008	Grey	No	
037	0874_SW132_220127	HDPE (no PTFE)	20 mL	00350621050924	Grey	No	
038	0874_SW117_220127	HDPE (no PTFE)	20 mL	00350621050988	Grey	No	
038	0874_SW117_220127	HDPE (no PTFE)	20 mL	00350621050956	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050811	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050987	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050990	Grey	No	
039	0874_SW115_220127	HDPE (no PTFE)	20 mL	00350621050937	Grey	No	
040	0874_SW116_220127	HDPE (no PTFE)	20 mL	00350621050998	Grey	No	
040	0874_SW116_220127	HDPE (no PTFE)	20 mL	00350621051093	Grey	No	
041	0874_SW109_220127	HDPE (no PTFE)	20 mL	00350621050932	Grey	No	
041	0874_SW109_220127	HDPE (no PTFE)	20 mL	00350621050980	Grey	No	
042	0874_SW108_220127	HDPE (no PTFE)	20 mL	00350621050832	Grey	No	
042	0874_SW108_220127	HDPE (no PTFE)	20 mL	00350621050902	Grey	No	
043	0874_SW118_220127	HDPE (no PTFE)	20 mL	00350621051030	Grey	No	
043	0874_SW118_220127	HDPE (no PTFE)	20 mL	00350621050915	Grey	No	
044	0874_QC301_220127	HDPE (no PTFE)	20 mL	00350621051088	Grey	No	
044	0874_QC301_220127	HDPE (no PTFE)	20 mL	00350621051045	Grey	No	
045	0874_SW131_220128	HDPE (no PTFE)	20 mL	00350621050999	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

045	0874_SW131_220128	HDPE (no PTFE)	20 mL	00350621051096	Grey	No	
046	0874_SW016_220128	HDPE (no PTFE)	20 mL	00350621051064	Grey	No	
046	0874_SW016_220128	HDPE (no PTFE)	20 mL	00350621050958	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621050855	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621050959	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621051035	Grey	No	
047	0874_SW102_220128	HDPE (no PTFE)	20 mL	00350621051052	Grey	No	
048	0874_SW125_220128	HDPE (no PTFE)	20 mL	00350621050825	Grey	No	
048	0874_SW125_220128	HDPE (no PTFE)	20 mL	00350621051029	Grey	No	
049	0874_SW123_220128	HDPE (no PTFE)	20 mL	00350621050858	Grey	No	
049	0874_SW123_220128	HDPE (no PTFE)	20 mL	00350621050831	Grey	No	
050	0874_SW132_220128	HDPE (no PTFE)	20 mL	00350621050903	Grey	No	
050	0874_SW132_220128	HDPE (no PTFE)	20 mL	00350621050891	Grey	No	
051	0874_QC104_220128	HDPE (no PTFE)	20 mL	00350621050948	Grey	No	
051	0874_QC104_220128	HDPE (no PTFE)	20 mL	00350621050966	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621051066	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621051032	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621050842	Grey	No	
052	0874_SW010_220128	HDPE (no PTFE)	20 mL	00350621050952	Grey	No	
053	0874_SW121_220128	HDPE (no PTFE)	20 mL	00350621050992	Grey	No	
053	0874_SW121_220128	HDPE (no PTFE)	20 mL	00350621051021	Grey	No	
054	0874_SW127_220128	HDPE (no PTFE)	20 mL	00350621051101	Grey	No	
054	0874_SW127_220128	HDPE (no PTFE)	20 mL	00350621051095	Grey	No	
055	0874_SW112_220128	HDPE (no PTFE)	20 mL	00350621051044	Grey	No	
055	0874_SW112_220128	HDPE (no PTFE)	20 mL	00350621051007	Grey	No	
056	0874_SW014_220128	HDPE (no PTFE)	20 mL	00350621050939	Grey	No	
056	0874_SW014_220128	HDPE (no PTFE)	20 mL	00350621050843	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

057	0874_SW017_220128	HDPE (no PTFE)	20 mL	00350621051061	Grey	No	
057	0874_SW017_220128	HDPE (no PTFE)	20 mL	00350621050970	Grey	No	
058	0874_QC105_220128	HDPE (no PTFE)	20 mL	00350621051046	Grey	No	
058	0874_QC105_220128	HDPE (no PTFE)	20 mL	00350621051070	Grey	No	
059	0874_SW117_220128	HDPE (no PTFE)	20 mL	00350621050829	Grey	No	
059	0874_SW117_220128	HDPE (no PTFE)	20 mL	00350621051057	Grey	No	
060	0874_SW118_220128	HDPE (no PTFE)	20 mL	00350621050929	Grey	No	
060	0874_SW118_220128	HDPE (no PTFE)	20 mL	00350621050931	Grey	No	
061	0874_SW116_220128	HDPE (no PTFE)	20 mL	00350621051092	Grey	No	
061	0874_SW116_220128	HDPE (no PTFE)	20 mL	00350621050916	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050844	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050908	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050853	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050960	Grey	No	
062	0874_SW109_220128	HDPE (no PTFE)	20 mL	00350621050821	Grey	No	
063	0874_SW108_220128	HDPE (no PTFE)	20 mL	00350621051011	Grey	No	
063	0874_SW108_220128	HDPE (no PTFE)	20 mL	00350621051086	Grey	No	
064	0874_QC302_220128	HDPE (no PTFE)	20 mL	00350621050936	Grey	No	
064	0874_QC302_220128	HDPE (no PTFE)	20 mL	00350621050836	Grey	No	
065	0874_SW115_220128	HDPE (no PTFE)	20 mL	00350621050881	Grey	No	
065	0874_SW115_220128	HDPE (no PTFE)	20 mL	00350621051028	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051075	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051012	Grey	No	
066	0874_SW112_220129	HDPE (no PTFE)	20 mL	00350621051072	Grey	No	
067	0874_SW014_220129	HDPE (no PTFE)	20 mL	00350621051050	Grey	No	
067	0874_SW014_220129	HDPE (no PTFE)	20 mL	00350621050845	Grey	No	
068	0874_QC106_220129	HDPE (no PTFE)	20 mL	00350621050993	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:
 EMAIL INVOICES TO:

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

 CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

068	0874_QC106_220129	HDPE (no PTFE)	20 mL	00350621050961	Grey	No	
069	0874_SW127_220129	HDPE (no PTFE)	20 mL	00350621050909	Grey	No	
069	0874_SW127_220129	HDPE (no PTFE)	20 mL	00350621050917	Grey	No	
070	0874_SW129_220129	HDPE (no PTFE)	20 mL	00350621051025	Grey	No	
070	0874_SW129_220129	HDPE (no PTFE)	20 mL	00350621051037	Grey	No	
071	0874_SW017_220129	HDPE (no PTFE)	20 mL	00350621050949	Grey	No	
071	0874_SW017_220129	HDPE (no PTFE)	20 mL	00350621051026	Grey	No	
072	0874_SW125_220129	HDPE (no PTFE)	20 mL	00350621050910	Grey	No	
072	0874_SW125_220129	HDPE (no PTFE)	20 mL	00350621050944	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051077	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621050823	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051000	Grey	No	
073	0874_SW131_220129	HDPE (no PTFE)	20 mL	00350621051102	Grey	No	
074	0874_SW102_220129	HDPE (no PTFE)	20 mL	00350621050977	Grey	No	
074	0874_SW102_220129	HDPE (no PTFE)	20 mL	00350621050830	Grey	No	
075	0874_QC107_220129	HDPE (no PTFE)	20 mL	00350621050979	Grey	No	
075	0874_QC107_220129	HDPE (no PTFE)	20 mL	00350621051054	Grey	No	
076	0874_SW016_220129	HDPE (no PTFE)	20 mL	00350621050982	Grey	No	
076	0874_SW016_220129	HDPE (no PTFE)	20 mL	00350621050810	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050820	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050850	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621051016	Grey	No	
077	0874_SW123_220129	HDPE (no PTFE)	20 mL	00350621050837	Grey	No	
078	0874_SW010_220129	HDPE (no PTFE)	20 mL	00350621050862	Grey	No	
078	0874_SW010_220129	HDPE (no PTFE)	20 mL	00350621050833	Grey	No	
079	0874_SW132_220129	HDPE (no PTFE)	20 mL	00350621050851	Grey	No	
079	0874_SW132_220129	HDPE (no PTFE)	20 mL	00350621050849	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612467_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

080	0874_SW121_220129	HDPE (no PTFE)	20 mL	00350621050864	Grey	No	
080	0874_SW121_220129	HDPE (no PTFE)	20 mL	00350621051089	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621051015	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050911	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050914	Grey	No	
081	0874_SW117_220129	HDPE (no PTFE)	20 mL	00350621050859	Grey	No	
082	0874_SW118_220129	HDPE (no PTFE)	20 mL	00350621050838	Grey	No	
082	0874_SW118_220129	HDPE (no PTFE)	20 mL	00350621050879	Grey	No	
083	0874_SW115_220129	HDPE (no PTFE)	20 mL	00350621050870	Grey	No	
083	0874_SW115_220129	HDPE (no PTFE)	20 mL	00350621051047	Grey	No	
084	0874_SW116_220129	HDPE (no PTFE)	20 mL	00350621050828	Grey	No	
084	0874_SW116_220129	HDPE (no PTFE)	20 mL	00350621050816	Grey	No	
085	0874_SW109_220129	HDPE (no PTFE)	20 mL	00350621050815	Grey	No	
085	0874_SW109_220129	HDPE (no PTFE)	20 mL	00350621050832	Grey	No	
086	0874_SW108_220129	HDPE (no PTFE)	20 mL	00350621050847	Grey	No	
086	0874_SW108_220129	HDPE (no PTFE)	20 mL	00350621050827	Grey	No	
087	0874_QC303_220129	HDPE (no PTFE)	20 mL	00350621051009	Grey	No	
087	0874_QC303_220129	HDPE (no PTFE)	20 mL	00350621050994	Grey	No	
088	0874_SW127_220130	HDPE (no PTFE)	20 mL	00350621050983	Grey	No	
088	0874_SW127_220130	HDPE (no PTFE)	20 mL	00350621050844	Grey	No	
089	0874_SW129_220130	HDPE (no PTFE)	20 mL	00350621050840	Grey	No	
089	0874_SW129_220130	HDPE (no PTFE)	20 mL	00350621050900	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621050866	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621051023	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621051098	Grey	No	
090	0874_SW112_220130	HDPE (no PTFE)	20 mL	00350621050885	Grey	No	
091	0874_SW014_220130	HDPE (no PTFE)	20 mL	00350621050962	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

091	0874_SW014_220130	HDPE (no PTFE)	20 mL	00350621050904	Grey	No	
092	0874_SW017_220130	HDPE (no PTFE)	20 mL	00350621050923	Grey	No	
092	0874_SW017_220130	HDPE (no PTFE)	20 mL	00350621050880	Grey	No	
093	0874_QC108_220130	HDPE (no PTFE)	20 mL	00350621050867	Grey	No	
093	0874_QC108_220130	HDPE (no PTFE)	20 mL	00350621050981	Grey	No	
094	0874_SW125_220130	HDPE (no PTFE)	20 mL	00350621050857	Grey	No	
094	0874_SW125_220130	HDPE (no PTFE)	20 mL	00350621050907	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051033	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051085	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621051013	Grey	No	
095	0874_SW131_220130	HDPE (no PTFE)	20 mL	00350621050995	Grey	No	
096	0874_SW016_220130	HDPE (no PTFE)	20 mL	00350621050965	Grey	No	
096	0874_SW016_220130	HDPE (no PTFE)	20 mL	00350621050964	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621051003	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621051018	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621050860	Grey	No	
097	0874_SW102_220130	HDPE (no PTFE)	20 mL	00350621050873	Grey	No	
098	0874_SW123_220130	HDPE (no PTFE)	20 mL	00350621050984	Grey	No	
098	0874_SW123_220130	HDPE (no PTFE)	20 mL	00350621050905	Grey	No	
099	0874_SW010_220130	HDPE (no PTFE)	20 mL	00350621050945	Grey	No	
099	0874_SW010_220130	HDPE (no PTFE)	20 mL	00350621051078	Grey	No	
100	0874_SW132_220130	HDPE (no PTFE)	20 mL	00350621050872	Grey	No	
100	0874_SW132_220130	HDPE (no PTFE)	20 mL	00350621050941	Grey	No	
101	0874_SW121_220130	HDPE (no PTFE)	20 mL	00350621050895	Grey	No	
101	0874_SW121_220130	HDPE (no PTFE)	20 mL	00350621050921	Grey	No	
102	0874_QC109_220130	HDPE (no PTFE)	20 mL	00350621050919	Grey	No	
102	0874_QC109_220130	HDPE (no PTFE)	20 mL	00350621050865	Grey	No	

**CHAIN OF CUSTODY**

COC#: 32929 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

103	0874_SW117_220130	HDPE (no PTFE)	20 mL	00350621050927	Grey	No	
103	0874_SW117_220130	HDPE (no PTFE)	20 mL	00350621050886	Grey	No	
104	0874_SW118_220130	HDPE (no PTFE)	20 mL	00350621050985	Grey	No	
104	0874_SW118_220130	HDPE (no PTFE)	20 mL	00350621050839	Grey	No	
105	0874_SW115_220130	HDPE (no PTFE)	20 mL	00350621051074	Grey	No	
105	0874_SW115_220130	HDPE (no PTFE)	20 mL	00350621050971	Grey	No	
106	0874_SW116_220130	HDPE (no PTFE)	20 mL	00350621050856	Grey	No	
106	0874_SW116_220130	HDPE (no PTFE)	20 mL	00350621050940	Grey	No	
107	0874_SW109_220130	HDPE (no PTFE)	20 mL	00350621051022	Grey	No	
107	0874_SW109_220130	HDPE (no PTFE)	20 mL	00350621050925	Grey	No	
108	0874_SW108_220130	HDPE (no PTFE)	20 mL	00350621051034	Grey	No	
108	0874_SW108_220130	HDPE (no PTFE)	20 mL	00350621051024	Grey	No	
109	0874_QC304_220130	HDPE (no PTFE)	20 mL	00350621051063	Grey	No	
109	0874_QC304_220130	HDPE (no PTFE)	20 mL	00350621050888	Grey	No	
110	0874_SW129_220128	HDPE (no PTFE)	20 mL	00350621050818	Grey	No	
110	0874_SW129_220128	HDPE (no PTFE)	20 mL	00350621050926	Grey	No	

Total Bottle Count: ALS: 258, Non ALS: 0

AECO#6/220203
Rv

10/2

ANZ
FQM - Generic Chain of Custody Form

CONSULTANT: AECOM		ADDRESS / OFFICE: AECOM TOWNSVILLE			SAMPLER: [REDACTED]		Destination Laboratory		
PROJECT MANAGER (PM): [REDACTED]		SITE: QLD 0874			MOBILE: [REDACTED]		NMI SYDNEY		
PROJECT ID: QLD_0874_PFASOMP		P.O. NO.: 60612487_2.1			EMAIL REPORT TO: [REDACTED]				
RESULTS REQUIRED (Date): 5 DAY STANDARD TAT		QUOTE NO.:			ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)				
FOR LABORATORY USE ONLY COOLER SEAL (circle appropriate) Intact: Yes No N/A SAMPLE TEMPERATURE CHILLED: Yes No		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL			PFAS - WATER STANDARD LOR (28 ANALYTES)		HOLD Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.		
SAMPLE INFORMATION (note: S = Soil, W=Water) CONTAINER INFORMATION									
ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles			
	0874_QC200_220126	W	26.01.2022		1 x P	1	X	N22/001926	
	0874_QC201_220126	W	26.01.2022		1 x P	1	X	N22/001927	
	0874_QC202_220127	W	27.01.2022		1 x P	1	X	N22/001928	
	0874_QC203_220127	W	27.01.2022		1 x P	1	X	N22/001929	
	0874_QC204_220128	W	28.01.2022		1 x P	1	X	N22/001930	
	0874_QC205_220128	W	28.01.2022		1 x P	1	X	N22/001931	
	0874_QC206_220129	W	29.01.2022		1 x P	1	X	N22/001932	
	0874_QC207_220129	W	29.01.2022		1 x P	1	X	N22/001933	
	0874_QC208_220130	W	30.01.2022		1 x P	1	X	N22/001934	
	0874_QC209_2201230	W	30.01.2022		1 x P	1	X	N22/001935	
Name: [REDACTED]		Date: 1/2/22		Name:		Date:		METHOD OF SHIPMENT	
Of: [REDACTED]		Time: 0830		Of:		Time:		Con' Note No:	
								Transport Co:	

RECEIVED
03 FEB 2022

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
 F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag
Soil Container Codes: Jar = Unpreserved glass jar

Appendix E

Laboratory Analytical Reports



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2200565

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
Page : 1 of 4
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)
C-O-C number : 32929
QC Level : NEPM 2013 B3 & ALS QC Standard
Site : QLD_0874
Sampler : [Redacted]

Dates

Date Samples Received : 02-Feb-2022 08:15
Issue Date : 02-Feb-2022
Client Requested Due Date : 18-Feb-2022
Scheduled Reporting Date : 18-Feb-2022

Delivery Details

Mode of Delivery : Carrier
Security Seal : Intact.
No. of coolers/boxes : 2
Temperature : 4.3, 7.8°C - Ice present
Receipt Detail : MEDIUM
No. of samples received / analysed : 54 / 54

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
*Samples were originally received by ALS Townsville on 31/01/22 (9.1, 8.9°C), and forwarded to ALS Brisbane for analysis.
This is a split batch work order. Associated work order is ET2200621.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2200565-001	26-Jan-2022 10:23	0874_SW127_220126	✓
ET2200565-002	26-Jan-2022 10:25	0874_QC500_220126	✓
ET2200565-003	26-Jan-2022 10:41	0874_SW129_220126	✓
ET2200565-004	26-Jan-2022 11:05	0874_SW014_220126	✓
ET2200565-005	26-Jan-2022 11:23	0874_SW017_220126	✓
ET2200565-006	26-Jan-2022 11:50	0874_SW010_220126	✓
ET2200565-007	26-Jan-2022 12:09	0874_SW121_220126	✓
ET2200565-008	26-Jan-2022 12:32	0874_SW132_220126	✓
ET2200565-009	26-Jan-2022 14:07	0874_SW112_220126	✓
ET2200565-010	26-Jan-2022 14:08	0874_QC100_220126	✓
ET2200565-011	26-Jan-2022 14:41	0874_SW125_220126	✓
ET2200565-012	26-Jan-2022 15:10	0874_SW131_220126	✓
ET2200565-013	26-Jan-2022 15:29	0874_SW016_220126	✓
ET2200565-014	26-Jan-2022 15:47	0874_SW102_220126	✓
ET2200565-015	26-Jan-2022 16:06	0874_SW123_220126	✓
ET2200565-016	26-Jan-2022 16:36	0874_SW117_220126	✓
ET2200565-017	26-Jan-2022 16:56	0874_QC101_220126	✓
ET2200565-018	26-Jan-2022 16:57	0874_SW118_220126	✓
ET2200565-019	26-Jan-2022 17:05	0874_SW115_220126	✓
ET2200565-020	26-Jan-2022 17:09	0874_QC300_220126	✓
ET2200565-021	26-Jan-2022 17:25	0874_SW116_220126	✓
ET2200565-022	26-Jan-2022 17:40	0874_SW109_220126	✓
ET2200565-023	26-Jan-2022 17:47	0874_SW108_220126	✓
ET2200565-024	27-Jan-2022 09:15	0874_SW112_220127	✓
ET2200565-025	27-Jan-2022 09:56	0874_SW127_220127	✓
ET2200565-026	27-Jan-2022 09:57	0874_QC102_220127	✓
ET2200565-027	27-Jan-2022 10:15	0874_SW129_220127	✓
ET2200565-028	27-Jan-2022 10:37	0874_SW014_220127	✓
ET2200565-029	27-Jan-2022 10:50	0874_SW017_220127	✓
ET2200565-030	27-Jan-2022 11:51	0874_SW131_220127	✓
ET2200565-031	27-Jan-2022 12:03	0874_SW102_220127	✓
ET2200565-032	27-Jan-2022 12:33	0874_SW125_220127	✓
ET2200565-033	27-Jan-2022 13:24	0874_SW123_220127	✓
ET2200565-034	27-Jan-2022 13:51	0874_SW121_220127	✓
ET2200565-035	27-Jan-2022 14:44	0874_SW010_220127	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
ET2200565-036	27-Jan-2022 14:45	0874_QC103_220127		✓
ET2200565-037	27-Jan-2022 14:53	0874_SW132_220127		✓
ET2200565-038	27-Jan-2022 15:13	0874_SW117_220127		✓
ET2200565-039	27-Jan-2022 15:23	0874_SW115_220127		✓
ET2200565-040	27-Jan-2022 15:35	0874_SW116_220127		✓
ET2200565-041	27-Jan-2022 15:48	0874_SW109_220127		✓
ET2200565-042	27-Jan-2022 15:58	0874_SW108_220127		✓
ET2200565-043	27-Jan-2022 16:28	0874_SW118_220127		✓
ET2200565-044	27-Jan-2022 16:28	0874_QC301_220127		✓
ET2200565-045	28-Jan-2022 09:24	0874_SW131_220128		✓
ET2200565-046	28-Jan-2022 09:51	0874_SW016_220128		✓
ET2200565-047	28-Jan-2022 10:11	0874_SW102_220128		✓
ET2200565-048	28-Jan-2022 10:47	0874_SW125_220128		✓
ET2200565-049	28-Jan-2022 10:57	0874_SW123_220128		✓
ET2200565-050	28-Jan-2022 11:16	0874_SW132_220128		✓
ET2200565-051	28-Jan-2022 11:17	0874_QC104_220128		✓
ET2200565-052	28-Jan-2022 11:28	0874_SW010_220128		✓
ET2200565-053	28-Jan-2022 11:49	0874_SW121_220128		✓
ET2200565-054	28-Jan-2022 12:30	0874_SW127_220128		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : ET2200565
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 32929
Sampler :
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 54
No. of samples analysed : 54

Page : 1 of 25
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 02-Feb-2022 08:15
Date Analysis Commenced : 07-Feb-2022
Issue Date : 18-Feb-2022 09:19



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], Assistant Laboratory Manager, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X - PFAS: Sample "0874_SW125_220126" required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_220126	0874_QC500_220126	0874_SW129_220126	0874_SW014_220126	0874_SW017_220126
Sampling date / time					26-Jan-2022 10:23	26-Jan-2022 10:25	26-Jan-2022 10:41	26-Jan-2022 11:05	26-Jan-2022 11:23
Compound	CAS Number	LOR	Unit	ET2200565-001	ET2200565-002	ET2200565-003	ET2200565-004	ET2200565-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.5	100	120	104	91.3	
13C8-PFOA	----	0.02	%	100	96.5	101	101	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_220126	0874_SW121_220126	0874_SW132_220126	0874_SW112_220126	0874_QC100_220126
Sampling date / time					26-Jan-2022 11:50	26-Jan-2022 12:09	26-Jan-2022 12:32	26-Jan-2022 14:07	26-Jan-2022 14:08
Compound	CAS Number	LOR	Unit	ET2200565-006	ET2200565-007	ET2200565-008	ET2200565-009	ET2200565-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.03	0.07	0.06	0.06	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.09	0.09	0.21	0.06	0.06	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.03	0.03	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.01	0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_220126	0874_SW121_220126	0874_SW132_220126	0874_SW112_220126	0874_QC100_220126
Sampling date / time					26-Jan-2022 11:50	26-Jan-2022 12:09	26-Jan-2022 12:32	26-Jan-2022 14:07	26-Jan-2022 14:08
Compound	CAS Number	LOR	Unit	ET2200565-006	ET2200565-007	ET2200565-008	ET2200565-009	ET2200565-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.11	0.12	0.32	0.16	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	0.12	0.28	0.12	0.12	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.11	0.12	0.32	0.16	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.7	101	91.4	108	94.7	
13C8-PFOA	----	0.02	%	101	98.7	102	98.2	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW125_220126	0874_SW131_220126	0874_SW016_220126	0874_SW102_220126	0874_SW123_220126
Sampling date / time				26-Jan-2022 14:41	26-Jan-2022 15:10	26-Jan-2022 15:29	26-Jan-2022 15:47	26-Jan-2022 16:06	
Compound	CAS Number	LOR	Unit	ET2200565-011	ET2200565-012	ET2200565-013	ET2200565-014	ET2200565-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.98	0.15	0.05	0.02	0.10	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.78	0.15	0.05	<0.02	0.10	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	9.81	1.09	0.31	0.15	0.87	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.07	0.08	<0.02	<0.02	0.10	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	76.4	1.86	0.36	0.63	3.47	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.9	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.13	0.07	0.02	<0.02	0.17	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.73	0.32	0.11	0.03	0.28	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.20	0.03	<0.02	<0.02	0.11	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.45	0.06	0.02	<0.01	0.08	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW125_220126	0874_SW131_220126	0874_SW016_220126	0874_SW102_220126	0874_SW123_220126
Sampling date / time				26-Jan-2022 14:41	26-Jan-2022 15:10	26-Jan-2022 15:29	26-Jan-2022 15:47	26-Jan-2022 16:06	
Compound	CAS Number	LOR	Unit	ET2200565-011	ET2200565-012	ET2200565-013	ET2200565-014	ET2200565-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	0.06	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	0.07	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	97.4	3.81	0.92	0.83	5.41	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	86.2	2.95	0.67	0.78	4.34	
Sum of PFAS (WA DER List)	----	0.01	µg/L	94.6	3.58	0.87	0.83	5.21	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	99.9	107	99.9	95.6	
13C8-PFOA	----	0.02	%	102	100	101	96.1	97.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_220126	0874_QC101_220126	0874_SW118_220126	0874_SW115_220126	0874_QC300_220126
Sampling date / time				26-Jan-2022 16:36	26-Jan-2022 16:56	26-Jan-2022 16:57	26-Jan-2022 17:05	26-Jan-2022 17:09	
Compound	CAS Number	LOR	Unit	ET2200565-016	ET2200565-017	ET2200565-018	ET2200565-019	ET2200565-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.02	0.02	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.07	0.11	0.10	0.12	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.41	0.39	0.34	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.04	0.04	0.04	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_220126	0874_QC101_220126	0874_SW118_220126	0874_SW115_220126	0874_QC300_220126
Sampling date / time					26-Jan-2022 16:36	26-Jan-2022 16:56	26-Jan-2022 16:57	26-Jan-2022 17:05	26-Jan-2022 17:09
Compound	CAS Number	LOR	Unit	ET2200565-016	ET2200565-017	ET2200565-018	ET2200565-019	ET2200565-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.39	0.61	0.58	0.53	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.35	0.52	0.49	0.46	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.39	0.61	0.58	0.53	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	99.3	99.9	95.8	106	
13C8-PFOA	----	0.02	%	101	98.8	101	101	98.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_220126	0874_SW109_220126	0874_SW108_220126	0874_SW112_220127	0874_SW127_220127
Sampling date / time					26-Jan-2022 17:25	26-Jan-2022 17:40	26-Jan-2022 17:47	27-Jan-2022 09:15	27-Jan-2022 09:56
Compound	CAS Number	LOR	Unit	ET2200565-021	ET2200565-022	ET2200565-023	ET2200565-024	ET2200565-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	0.06	<0.01	0.06	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.18	0.16	0.01	0.13	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.02	0.02	<0.02	0.03	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_220126	0874_SW109_220126	0874_SW108_220126	0874_SW112_220127	0874_SW127_220127
Sampling date / time					26-Jan-2022 17:25	26-Jan-2022 17:40	26-Jan-2022 17:47	27-Jan-2022 09:15	27-Jan-2022 09:56
Compound	CAS Number	LOR	Unit	ET2200565-021	ET2200565-022	ET2200565-023	ET2200565-024	ET2200565-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.26	0.24	0.01	0.23	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.24	0.22	0.01	0.19	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.26	0.24	0.01	0.23	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.3	97.9	97.1	88.3	99.5	
13C8-PFOA	----	0.02	%	96.5	101	98.5	99.1	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_220127	0874_SW129_220127	0874_SW014_220127	0874_SW017_220127	0874_SW131_220127
				Sampling date / time	27-Jan-2022 09:57	27-Jan-2022 10:15	27-Jan-2022 10:37	27-Jan-2022 10:50	27-Jan-2022 11:51
Compound	CAS Number	LOR	Unit	ET2200565-026	ET2200565-027	ET2200565-028	ET2200565-029	ET2200565-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.16	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.20	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	1.18	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.10	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.01	0.02	2.98	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.06	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.38	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.06	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_220127	0874_SW129_220127	0874_SW014_220127	0874_SW017_220127	0874_SW131_220127
Sampling date / time				27-Jan-2022 09:57	27-Jan-2022 10:15	27-Jan-2022 10:37	27-Jan-2022 10:50	27-Jan-2022 11:51	
Compound	CAS Number	LOR	Unit	ET2200565-026	ET2200565-027	ET2200565-028	ET2200565-029	ET2200565-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.01	0.02	5.16	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.01	0.02	4.16	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.01	0.02	4.86	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.7	97.0	93.4	110	95.3	
13C8-PFOA	----	0.02	%	100	97.9	99.7	102	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_220127	0874_SW125_220127	0874_SW123_220127	0874_SW121_220127	0874_SW010_220127
Sampling date / time					27-Jan-2022 12:03	27-Jan-2022 12:33	27-Jan-2022 13:24	27-Jan-2022 13:51	27-Jan-2022 14:44
Compound	CAS Number	LOR	Unit	ET2200565-031	ET2200565-032	ET2200565-033	ET2200565-034	ET2200565-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.14	0.11	0.18	0.10	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.14	0.11	0.15	0.13	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.08	1.00	0.69	0.65	0.80	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.27	0.08	0.03	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.31	8.75	2.64	0.53	1.94	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.06	0.14	0.10	0.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.22	0.28	0.26	0.34	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.09	<0.02	0.11	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.04	0.07	0.04	0.18	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_220127	0874_SW125_220127	0874_SW123_220127	0874_SW121_220127	0874_SW010_220127
Sampling date / time					27-Jan-2022 12:03	27-Jan-2022 12:33	27-Jan-2022 13:24	27-Jan-2022 13:51	27-Jan-2022 14:44
Compound	CAS Number	LOR	Unit	ET2200565-031	ET2200565-032	ET2200565-033	ET2200565-034	ET2200565-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.39	10.6	4.26	2.04	3.85	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.39	9.75	3.33	1.18	2.74	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.39	10.2	4.07	1.86	3.67	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.0	90.7	97.3	96.6	90.4	
13C8-PFOA	----	0.02	%	100	100	101	99.1	99.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC103_220127	0874_SW132_220127	0874_SW117_220127	0874_SW115_220127	0874_SW116_220127
Sampling date / time					27-Jan-2022 14:45	27-Jan-2022 14:53	27-Jan-2022 15:13	27-Jan-2022 15:23	27-Jan-2022 15:35
Compound	CAS Number	LOR	Unit	ET2200565-036	ET2200565-037	ET2200565-038	ET2200565-039	ET2200565-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.85	13.9	9.24	0.66	0.50	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.81	10.3	6.62	0.60	0.41	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.66	13.2	8.76	0.66	0.50	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	96.7	95.3	101	90.1	
13C8-PFOA	----	0.02	%	102	98.8	99.2	101	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW109_220127	0874_SW108_220127	0874_SW118_220127	0874_QC301_220127	0874_SW131_220128
Sampling date / time				27-Jan-2022 15:48	27-Jan-2022 15:58	27-Jan-2022 16:28	27-Jan-2022 16:28	28-Jan-2022 09:24	
Compound	CAS Number	LOR	Unit	ET2200565-041	ET2200565-042	ET2200565-043	ET2200565-044	ET2200565-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.10	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.13	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.09	0.11	0.96	<0.01	0.12	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.07	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.23	0.25	2.30	<0.01	0.78	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.10	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	<0.02	0.39	<0.02	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.09	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	<0.01	0.19	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW109_220127	0874_SW108_220127	0874_SW118_220127	0874_QC301_220127	0874_SW131_220128
Sampling date / time					27-Jan-2022 15:48	27-Jan-2022 15:58	27-Jan-2022 16:28	27-Jan-2022 16:28	28-Jan-2022 09:24
Compound	CAS Number	LOR	Unit	ET2200565-041	ET2200565-042	ET2200565-043	ET2200565-044	ET2200565-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.36	0.36	4.33	<0.01	0.93	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.32	0.36	3.26	<0.01	0.90	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.36	0.36	4.13	<0.01	0.93	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	106	105	113	99.8	
13C8-PFOA	----	0.02	%	110	109	107	103	109	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_220128	0874_SW102_220128	0874_SW125_220128	0874_SW123_220128	0874_SW132_220128
Sampling date / time				28-Jan-2022 09:51	28-Jan-2022 10:11	28-Jan-2022 10:47	28-Jan-2022 10:57	28-Jan-2022 11:16	
Compound	CAS Number	LOR	Unit	ET2200565-046	ET2200565-047	ET2200565-048	ET2200565-049	ET2200565-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.08	0.60	0.26	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.05	0.77	0.28	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	0.12	0.38	4.92	1.80	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.03	0.45	0.11	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.18	0.26	1.93	5.77	3.79	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.3	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.06	0.44	0.18	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.15	1.38	0.66	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.13	0.13	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.02	0.30	0.26	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_220128	0874_SW102_220128	0874_SW125_220128	0874_SW123_220128	0874_SW132_220128
Sampling date / time				28-Jan-2022 09:51	28-Jan-2022 10:11	28-Jan-2022 10:47	28-Jan-2022 10:57	28-Jan-2022 11:16	
Compound	CAS Number	LOR	Unit	ET2200565-046	ET2200565-047	ET2200565-048	ET2200565-049	ET2200565-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.22	0.38	2.70	15.1	7.57	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.22	0.38	2.31	10.7	5.59	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.22	0.38	2.62	13.8	7.18	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	105	98.5	106	100	
13C8-PFOA	----	0.02	%	108	110	105	108	112	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC104_220128	0874_SW010_220128	0874_SW121_220128	0874_SW127_220128	----
Sampling date / time				28-Jan-2022 11:17	28-Jan-2022 11:28	28-Jan-2022 11:49	28-Jan-2022 12:30	----	----
Compound	CAS Number	LOR	Unit	ET2200565-051	ET2200565-052	ET2200565-053	ET2200565-054	-----	----
				Result	Result	Result	Result	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.27	0.05	0.13	<0.02	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.31	0.03	0.11	<0.02	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.92	0.24	0.59	<0.01	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.12	<0.02	<0.02	<0.02	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.30	0.46	0.53	<0.01	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	0.1	<0.1	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.19	0.08	0.08	<0.02	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.71	0.10	0.17	<0.02	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.14	0.05	<0.02	<0.02	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.28	0.06	0.03	<0.01	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC104_220128	0874_SW010_220128	0874_SW121_220128	0874_SW127_220128	----
Sampling date / time				28-Jan-2022 11:17	28-Jan-2022 11:28	28-Jan-2022 11:49	28-Jan-2022 12:30	----	----
Compound	CAS Number	LOR	Unit	ET2200565-051	ET2200565-052	ET2200565-053	ET2200565-054	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	8.34	1.07	1.74	<0.01	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.22	0.70	1.12	<0.01	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	7.91	1.04	1.63	<0.01	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	98.7	99.6	102	----	----
13C8-PFOA	----	0.02	%	110	113	109	109	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : ET2200565
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 32929
Sampler :
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 54
No. of samples analysed : 54

Page : 1 of 13
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 02-Feb-2022
Date Analysis Commenced : 07-Feb-2022
Issue Date : 18-Feb-2022



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], Assistant Laboratory Manager, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159834)									
ET2200565-016	0874_SW117_220126	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.28	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159835)									
ET2200565-024	0874_SW112_220127	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.13	0.12	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2200565-033	0874_SW123_220127	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.69	0.69	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.64	2.39	9.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.11	0.12	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159839)									
ET2200565-047	0874_SW102_220128	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.12	0.11	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.29	11.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159839) - continued											
ET2200565-047	0874_SW102_220128	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159834)											
ET2200565-016	0874_SW117_220126	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit				
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159835)											
ET2200565-024	0874_SW112_220127	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2200565-033	0874_SW123_220127	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.07	0.0	No Limit
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.14	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.28	0.29	0.0	0% - 50%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.09	0.08	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit				
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159839)											
ET2200565-047	0874_SW102_220128	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159839) - continued									
ET2200565-047	0874_SW102_220128	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159834)									
ET2200565-016	0874_SW117_220126	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159835)									
ET2200565-024	0874_SW112_220127	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200565-033	0874_SW123_220127	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159835) - continued									
ET2200565-033	0874_SW123_220127	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159839)									
ET2200565-047	0874_SW102_220128	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159834)									
ET2200565-016	0874_SW117_220126	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159835)									
ET2200565-024	0874_SW112_220127	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159835) - continued									
ET2200565-024	0874_SW112_220127	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200565-033	0874_SW123_220127	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159839)									
ET2200565-047	0874_SW102_220128	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4159834)									
ET2200565-016	0874_SW117_220126	EP231X: Sum of PFAS	----	0.01	µg/L	0.39	0.39	0.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.35	0.35	0.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.39	0.39	0.0	0% - 20%
EP231P: PFAS Sums (QC Lot: 4159835)									
ET2200565-024	0874_SW112_220127	EP231X: Sum of PFAS	----	0.01	µg/L	0.23	0.22	4.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.19	0.18	5.4	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.23	0.22	4.4	0% - 20%
ET2200565-033	0874_SW123_220127	EP231X: Sum of PFAS	----	0.01	µg/L	4.26	3.97	7.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.33	3.08	7.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.07	3.78	7.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 4159839)									
ET2200565-047	0874_SW102_220128	EP231X: Sum of PFAS	----	0.01	µg/L	0.38	0.40	5.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.38	0.40	5.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.38	0.40	5.1	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159834)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	130	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	129	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	132	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	132	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	136	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159835)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	126	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	109	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	127	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	132	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	119	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	111	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159839)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	92.6	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	106	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	98.8	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	92.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	97.4	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	78.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159834)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	124	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	129	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	130	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	117	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	130	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	126	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	119	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159835)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	125	73.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159835) - continued									
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	128	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	133	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	102	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	120	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159839)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	109	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	103	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	93.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.6	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	97.3	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159834)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	122	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	133	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	130	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	129	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	134	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	129	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159835)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	135	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	136	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	119	60.5	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159835) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	132	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	131	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	131	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159839)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	101	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	105	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	125	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	100	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	109	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.0	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159834)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	128	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	136	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	127	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159835)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	138	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	128	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	128	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	107	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159839)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	95.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	117	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	109	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	101	64.2	133	
EP231P: PFAS Sums (QCLot: 4159834)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4159834) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4159835)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4159839)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
				Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159834)							
ET2200565-019	0874_SW115_220126	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	123	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	123	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	122	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	131	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	124	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	138	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159835)							
ET2200565-022	0874_SW109_220126	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	101	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	106	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	102	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.9	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159839)							
ET2200565-052	0874_SW010_220128	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	103	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	115	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	106	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	105	69.0	134



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159839) - continued							
ET2200565-052	0874_SW010_220128	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	134	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	98.4	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159834)							
ET2200565-019	0874_SW115_220126	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	129	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	118	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	121	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	129	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	132	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	118	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	118	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	128	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	118	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	123	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	116	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159835)							
ET2200565-022	0874_SW109_220126	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	85.5	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	109	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	108	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	101	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	104	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	112	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	106	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	103	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	100	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159839)							
ET2200565-052	0874_SW010_220128	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	111	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	105	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	96.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	112	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	106	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	96.8	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	103	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	122	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	111	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	109	71.0	132



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159834)							
ET2200565-019	0874_SW115_220126	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	129	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	126	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	112	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	129	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	131	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	131	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159835)							
ET2200565-022	0874_SW109_220126	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	127	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	100	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	92.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	108	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	107	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159839)							
ET2200565-052	0874_SW010_220128	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	106	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	122	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	112	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	107	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159834)							



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159834) - continued							
ET2200565-019	0874_SW115_220126	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	129	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	122	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	127	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159835)							
ET2200565-022	0874_SW109_220126	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	127	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159839)							
ET2200565-052	0874_SW010_220128	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	114	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	113	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	124	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	112	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2200565	Page	: 1 of 8
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 02-Feb-2022
Site	: QLD_0874	Issue Date	: 18-Feb-2022
Sampler	: [REDACTED]	No. of samples received	: 54
Order number	: 60612487_2.1	No. of samples analysed	: 54

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	54	7.41	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_SW127_220126, 0874_SW129_220126, 0874_SW017_220126, 0874_SW121_220126, 0874_SW112_220126, 0874_SW125_220126, 0874_SW016_220126, 0874_SW123_220126, 0874_QC101_220126, 0874_SW115_220126, 0874_SW116_220126, 0874_SW108_220126	26-Jan-2022	14-Feb-2022	25-Jul-2022	✓	14-Feb-2022	25-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW109_220127, 0874_SW118_220127	27-Jan-2022	11-Feb-2022	26-Jul-2022	✓	11-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220127, 0874_QC102_220127, 0874_SW014_220127, 0874_SW131_220127, 0874_SW125_220127, 0874_SW121_220127, 0874_QC103_220127, 0874_SW117_220127, 0874_SW116_220127	27-Jan-2022	14-Feb-2022	26-Jul-2022	✓	14-Feb-2022	26-Jul-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
HDPE (no PTFE) (EP231X) 0874_SW131_220128, 0874_SW102_220128, 0874_SW123_220128, 0874_QC104_220128, 0874_SW121_220128,	0874_SW016_220128, 0874_SW125_220128, 0874_SW132_220128, 0874_SW010_220128, 0874_SW127_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_220126, 0874_SW129_220126, 0874_SW017_220126, 0874_SW121_220126, 0874_SW112_220126, 0874_SW125_220126, 0874_SW016_220126, 0874_SW123_220126, 0874_QC101_220126, 0874_SW115_220126, 0874_SW116_220126, 0874_SW108_220126	0874_QC500_220126, 0874_SW014_220126, 0874_SW010_220126, 0874_SW132_220126, 0874_QC100_220126, 0874_SW131_220126, 0874_SW102_220126, 0874_SW117_220126, 0874_SW118_220126, 0874_QC300_220126, 0874_SW109_220126,	26-Jan-2022	14-Feb-2022	25-Jul-2022	✓	14-Feb-2022	25-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW109_220127, 0874_SW118_220127,	0874_SW108_220127, 0874_QC301_220127	27-Jan-2022	11-Feb-2022	26-Jul-2022	✓	11-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220127, 0874_QC102_220127, 0874_SW014_220127, 0874_SW131_220127, 0874_SW125_220127, 0874_SW121_220127, 0874_QC103_220127, 0874_SW117_220127, 0874_SW116_220127	0874_SW127_220127, 0874_SW129_220127, 0874_SW017_220127, 0874_SW102_220127, 0874_SW123_220127, 0874_SW010_220127, 0874_SW132_220127, 0874_SW115_220127,	27-Jan-2022	14-Feb-2022	26-Jul-2022	✓	14-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW131_220128, 0874_SW102_220128, 0874_SW123_220128, 0874_QC104_220128, 0874_SW121_220128,	0874_SW016_220128, 0874_SW125_220128, 0874_SW132_220128, 0874_SW010_220128, 0874_SW127_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW127_220126, 0874_SW129_220126, 0874_SW017_220126, 0874_SW121_220126, 0874_SW112_220126, 0874_SW125_220126, 0874_SW016_220126, 0874_SW123_220126, 0874_QC101_220126, 0874_SW115_220126, 0874_SW116_220126, 0874_SW108_220126	0874_QC500_220126, 0874_SW014_220126, 0874_SW010_220126, 0874_SW132_220126, 0874_QC100_220126, 0874_SW131_220126, 0874_SW102_220126, 0874_SW117_220126, 0874_SW118_220126, 0874_QC300_220126, 0874_SW109_220126,	26-Jan-2022	14-Feb-2022	25-Jul-2022	✓	14-Feb-2022	25-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW109_220127, 0874_SW118_220127,	0874_SW108_220127, 0874_QC301_220127	27-Jan-2022	11-Feb-2022	26-Jul-2022	✓	11-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220127, 0874_QC102_220127, 0874_SW014_220127, 0874_SW131_220127, 0874_SW125_220127, 0874_SW121_220127, 0874_QC103_220127, 0874_SW117_220127, 0874_SW116_220127	0874_SW127_220127, 0874_SW129_220127, 0874_SW017_220127, 0874_SW102_220127, 0874_SW123_220127, 0874_SW010_220127, 0874_SW132_220127, 0874_SW115_220127,	27-Jan-2022	14-Feb-2022	26-Jul-2022	✓	14-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW131_220128, 0874_SW102_220128, 0874_SW123_220128, 0874_QC104_220128, 0874_SW121_220128,	0874_SW016_220128, 0874_SW125_220128, 0874_SW132_220128, 0874_SW010_220128, 0874_SW127_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_220126, 0874_SW129_220126, 0874_SW017_220126, 0874_SW121_220126, 0874_SW112_220126, 0874_SW125_220126, 0874_SW016_220126, 0874_SW123_220126, 0874_QC101_220126, 0874_SW115_220126, 0874_SW116_220126, 0874_SW108_220126	0874_QC500_220126, 0874_SW014_220126, 0874_SW010_220126, 0874_SW132_220126, 0874_QC100_220126, 0874_SW131_220126, 0874_SW102_220126, 0874_SW117_220126, 0874_SW118_220126, 0874_QC300_220126, 0874_SW109_220126,	26-Jan-2022	14-Feb-2022	25-Jul-2022	✓	14-Feb-2022	25-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW109_220127, 0874_SW118_220127,	0874_SW108_220127, 0874_QC301_220127	27-Jan-2022	11-Feb-2022	26-Jul-2022	✓	11-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220127, 0874_QC102_220127, 0874_SW014_220127, 0874_SW131_220127, 0874_SW125_220127, 0874_SW121_220127, 0874_QC103_220127, 0874_SW117_220127, 0874_SW116_220127	0874_SW127_220127, 0874_SW129_220127, 0874_SW017_220127, 0874_SW102_220127, 0874_SW123_220127, 0874_SW010_220127, 0874_SW132_220127, 0874_SW115_220127,	27-Jan-2022	14-Feb-2022	26-Jul-2022	✓	14-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW131_220128, 0874_SW102_220128, 0874_SW123_220128, 0874_QC104_220128, 0874_SW121_220128,	0874_SW016_220128, 0874_SW125_220128, 0874_SW132_220128, 0874_SW010_220128, 0874_SW127_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW127_220126, 0874_SW129_220126, 0874_SW017_220126, 0874_SW121_220126, 0874_SW112_220126, 0874_SW125_220126, 0874_SW016_220126, 0874_SW123_220126, 0874_QC101_220126, 0874_SW115_220126, 0874_SW116_220126, 0874_SW108_220126	0874_QC500_220126, 0874_SW014_220126, 0874_SW010_220126, 0874_SW132_220126, 0874_QC100_220126, 0874_SW131_220126, 0874_SW102_220126, 0874_SW117_220126, 0874_SW118_220126, 0874_QC300_220126, 0874_SW109_220126,	26-Jan-2022	14-Feb-2022	25-Jul-2022	✓	14-Feb-2022	25-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW109_220127, 0874_SW118_220127,	0874_SW108_220127, 0874_QC301_220127	27-Jan-2022	11-Feb-2022	26-Jul-2022	✓	11-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220127, 0874_QC102_220127, 0874_SW014_220127, 0874_SW131_220127, 0874_SW125_220127, 0874_SW121_220127, 0874_QC103_220127, 0874_SW117_220127, 0874_SW116_220127	0874_SW127_220127, 0874_SW129_220127, 0874_SW017_220127, 0874_SW102_220127, 0874_SW123_220127, 0874_SW010_220127, 0874_SW132_220127, 0874_SW115_220127,	27-Jan-2022	14-Feb-2022	26-Jul-2022	✓	14-Feb-2022	26-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW131_220128, 0874_SW102_220128, 0874_SW123_220128, 0874_QC104_220128, 0874_SW121_220128,	0874_SW016_220128, 0874_SW125_220128, 0874_SW132_220128, 0874_SW010_220128, 0874_SW127_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	54	7.41	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	54	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	54	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	54	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2200621

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]

Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]

E-mail : [Redacted]
Telephone : ---
Facsimile : ---

E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 4
Quote number : ET2021AECOMAU0001 (TV/007/21 - Compass)

C-O-C number : 32929

QC Level : NEPM 2013 B3 & ALS QC Standard

Site : QLD_0874
Sampler : [Redacted]

Dates

Date Samples Received : 02-Feb-2022 08:15
Client Requested Due Date : 18-Feb-2022

Issue Date : 02-Feb-2022
Scheduled Reporting Date : 18-Feb-2022

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 2
Receipt Detail : MEDIUM

Security Seal : Intact.
Temperature : 4.3, 7.8°C - Ice present
No. of samples received / analysed : 56 / 56

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
This is a split batch work order. Associated work order is ET2200565.
*Samples were originally received by ALS Townsville on 31/01/22 (9.1, 8.9°C), and forwarded to ALS Brisbane for analysis.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2200621-055	28-Jan-2022 13:38	0874_SW112_220128	✓
ET2200621-056	28-Jan-2022 14:01	0874_SW014_220128	✓
ET2200621-057	28-Jan-2022 14:15	0874_SW017_220128	✓
ET2200621-058	28-Jan-2022 14:16	0874_QC105_220128	✓
ET2200621-059	28-Jan-2022 14:28	0874_SW117_220128	✓
ET2200621-060	28-Jan-2022 14:37	0874_SW118_220128	✓
ET2200621-061	28-Jan-2022 14:49	0874_SW116_220128	✓
ET2200621-062	28-Jan-2022 15:03	0874_SW109_220128	✓
ET2200621-063	28-Jan-2022 15:13	0874_SW108_220128	✓
ET2200621-064	28-Jan-2022 15:25	0874_QC302_220128	✓
ET2200621-065	28-Jan-2022 15:26	0874_SW115_220128	✓
ET2200621-066	29-Jan-2022 09:17	0874_SW112_220129	✓
ET2200621-067	29-Jan-2022 09:36	0874_SW014_220129	✓
ET2200621-068	29-Jan-2022 09:37	0874_QC106_220129	✓
ET2200621-069	29-Jan-2022 09:58	0874_SW127_220129	✓
ET2200621-070	29-Jan-2022 10:14	0874_SW129_220129	✓
ET2200621-071	29-Jan-2022 10:32	0874_SW017_220129	✓
ET2200621-072	29-Jan-2022 11:22	0874_SW125_220129	✓
ET2200621-073	29-Jan-2022 11:43	0874_SW131_220129	✓
ET2200621-074	29-Jan-2022 12:00	0874_SW102_220129	✓
ET2200621-075	29-Jan-2022 12:00	0874_QC107_220129	✓
ET2200621-076	29-Jan-2022 12:18	0874_SW016_220129	✓
ET2200621-077	29-Jan-2022 12:38	0874_SW123_220129	✓
ET2200621-078	29-Jan-2022 12:51	0874_SW010_220129	✓
ET2200621-079	29-Jan-2022 13:00	0874_SW132_220129	✓
ET2200621-080	29-Jan-2022 01:33	0874_SW121_220129	✓
ET2200621-081	29-Jan-2022 13:40	0874_SW117_220129	✓
ET2200621-082	29-Jan-2022 13:52	0874_SW118_220129	✓
ET2200621-083	29-Jan-2022 13:59	0874_SW115_220129	✓
ET2200621-084	29-Jan-2022 14:13	0874_SW116_220129	✓
ET2200621-085	29-Jan-2022 14:24	0874_SW109_220129	✓
ET2200621-086	29-Jan-2022 14:31	0874_SW108_220129	✓
ET2200621-087	29-Jan-2022 14:35	0874_QC303_220129	✓
ET2200621-088	30-Jan-2022 08:37	0874_SW127_220130	✓
ET2200621-089	30-Jan-2022 08:50	0874_SW129_220130	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
ET2200621-090	30-Jan-2022 09:28	0874_SW112_220130		✓
ET2200621-091	30-Jan-2022 09:50	0874_SW014_220130		✓
ET2200621-092	30-Jan-2022 10:04	0874_SW017_220130		✓
ET2200621-093	30-Jan-2022 10:05	0874_QC108_220130		✓
ET2200621-094	30-Jan-2022 10:25	0874_SW125_220130		✓
ET2200621-095	30-Jan-2022 10:51	0874_SW131_220130		✓
ET2200621-096	30-Jan-2022 11:10	0874_SW016_220130		✓
ET2200621-097	30-Jan-2022 11:27	0874_SW102_220130		✓
ET2200621-098	30-Jan-2022 11:48	0874_SW123_220130		✓
ET2200621-099	30-Jan-2022 12:11	0874_SW010_220130		✓
ET2200621-100	30-Jan-2022 12:21	0874_SW132_220130		✓
ET2200621-101	30-Jan-2022 12:43	0874_SW121_220130		✓
ET2200621-102	30-Jan-2022 12:44	0874_QC109_220130		✓
ET2200621-103	30-Jan-2022 13:10	0874_SW117_220130		✓
ET2200621-104	30-Jan-2022 13:21	0874_SW118_220130		✓
ET2200621-105	30-Jan-2022 13:32	0874_SW115_220130		✓
ET2200621-106	30-Jan-2022 13:42	0874_SW116_220130		✓
ET2200621-107	30-Jan-2022 14:03	0874_SW109_220130		✓
ET2200621-108	30-Jan-2022 14:13	0874_SW108_220130		✓
ET2200621-109	30-Jan-2022 14:18	0874_QC304_220130		✓
ET2200621-110	28-Jan-2022 12:00	0874_SW129_220128		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



CERTIFICATE OF ANALYSIS

Work Order : ET2200621
Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
Telephone : ---
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 32929
Sampler : [Redacted]
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 56
No. of samples analysed : 56

Page : 1 of 27
Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 02-Feb-2022 08:15
Date Analysis Commenced : 07-Feb-2022
Issue Date : 17-Feb-2022 16:49



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
• Analytical Results
• Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], 2IC Organic Chemist, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: The LORs of PFPeA, PFHpA and PFBS have been raised for particular samples due to sample matrix interferences.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_220128	0874_SW014_220128	0874_SW017_220128	0874_QC105_220128	0874_SW117_220128
Sampling date / time				28-Jan-2022 13:38	28-Jan-2022 14:01	28-Jan-2022 14:15	28-Jan-2022 14:16	28-Jan-2022 14:28	
Compound	CAS Number	LOR	Unit	ET2200621-055	ET2200621-056	ET2200621-057	ET2200621-058	ET2200621-059	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.17	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.46	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.08	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_220128	0874_SW014_220128	0874_SW017_220128	0874_QC105_220128	0874_SW117_220128
Sampling date / time					28-Jan-2022 13:38	28-Jan-2022 14:01	28-Jan-2022 14:15	28-Jan-2022 14:16	28-Jan-2022 14:28
Compound	CAS Number	LOR	Unit	ET2200621-055	ET2200621-056	ET2200621-057	ET2200621-058	ET2200621-059	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.80
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.63
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.78
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	102	117	107	106	106
13C8-PFOA	----	0.02	%	105	104	106	107	106	106



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW118_220128	0874_SW116_220128	0874_SW109_220128	0874_SW108_220128	0874_QC302_220128
Sampling date / time				28-Jan-2022 14:37	28-Jan-2022 14:49	28-Jan-2022 15:03	28-Jan-2022 15:13	28-Jan-2022 15:25	
Compound	CAS Number	LOR	Unit	ET2200621-060	ET2200621-061	ET2200621-062	ET2200621-063	ET2200621-064	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.03	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.29	0.28	0.20	0.10	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.62	0.48	0.36	0.24	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.10	0.06	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.03	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW118_220128	0874_SW116_220128	0874_SW109_220128	0874_SW108_220128	0874_QC302_220128
Sampling date / time				28-Jan-2022 14:37	28-Jan-2022 14:49	28-Jan-2022 15:03	28-Jan-2022 15:13	28-Jan-2022 15:25	
Compound	CAS Number	LOR	Unit	ET2200621-060	ET2200621-061	ET2200621-062	ET2200621-063	ET2200621-064	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.17	1.00	0.73	0.34	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.91	0.76	0.56	0.34	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.11	0.96	0.70	0.34	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	102	103	105	92.7	
13C8-PFOA	----	0.02	%	108	98.6	100	102	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_220128	0874_SW112_220129	0874_SW014_220129	0874_QC106_220129	0874_SW127_220129
Sampling date / time					28-Jan-2022 15:26	29-Jan-2022 09:17	29-Jan-2022 09:36	29-Jan-2022 09:37	29-Jan-2022 09:58
Compound	CAS Number	LOR	Unit	ET2200621-065	ET2200621-066	ET2200621-067	ET2200621-068	ET2200621-069	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.16	0.36	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.92	0.28	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.11	0.36	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	102	104	97.6	107	
13C8-PFOA	----	0.02	%	100	101	101	99.1	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_220129	0874_SW017_220129	0874_SW125_220129	0874_SW131_220129	0874_SW102_220129
Sampling date / time				29-Jan-2022 10:14	29-Jan-2022 10:32	29-Jan-2022 11:22	29-Jan-2022 11:43	29-Jan-2022 12:00	
Compound	CAS Number	LOR	Unit	ET2200621-070	ET2200621-071	ET2200621-072	ET2200621-073	ET2200621-074	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.35	<0.02	0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.39	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.02	3.14	0.15	0.15	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.20	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.02	5.16	0.65	0.29	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.2	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.24	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.96	0.04	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.08	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.16	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_220129	0874_SW017_220129	0874_SW125_220129	0874_SW131_220129	0874_SW102_220129
Sampling date / time					29-Jan-2022 10:14	29-Jan-2022 10:32	29-Jan-2022 11:22	29-Jan-2022 11:43	29-Jan-2022 12:00
Compound	CAS Number	LOR	Unit	ET2200621-070	ET2200621-071	ET2200621-072	ET2200621-073	ET2200621-074	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.04	10.9	0.85	0.49	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.04	8.30	0.80	0.44	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.04	10.3	0.85	0.49	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.0	94.2	106	92.7	105	
13C8-PFOA	----	0.02	%	99.5	101	101	99.9	99.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC107_220129	0874_SW016_220129	0874_SW123_220129	0874_SW010_220129	0874_SW132_220129
Sampling date / time					29-Jan-2022 12:00	29-Jan-2022 12:18	29-Jan-2022 12:38	29-Jan-2022 12:51	29-Jan-2022 13:00
Compound	CAS Number	LOR	Unit	ET2200621-075	ET2200621-076	ET2200621-077	ET2200621-078	ET2200621-079	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	0.31	0.14	0.27	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.32	0.16	0.29	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.16	0.02	1.92	1.10	1.76	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.25	0.07	0.14	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.08	3.76	2.72	3.84	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.17	0.15	0.17	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	<0.02	0.55	0.37	0.62	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.07	0.12	0.12	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.14	0.26	0.24	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC107_220129	0874_SW016_220129	0874_SW123_220129	0874_SW010_220129	0874_SW132_220129
Sampling date / time					29-Jan-2022 12:00	29-Jan-2022 12:18	29-Jan-2022 12:38	29-Jan-2022 12:51	29-Jan-2022 13:00
Compound	CAS Number	LOR	Unit	ET2200621-075	ET2200621-076	ET2200621-077	ET2200621-078	ET2200621-079	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.49	0.10	7.59	5.19	7.55	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.44	0.10	5.68	3.82	5.60	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.49	0.10	7.02	4.96	7.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.6	103	95.8	91.0	104	
13C8-PFOA	----	0.02	%	98.0	102	102	117	118	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_220129	0874_SW117_220129	0874_SW118_220129	0874_SW115_220129	0874_SW116_220129
Sampling date / time					29-Jan-2022 01:33	29-Jan-2022 13:40	29-Jan-2022 13:52	29-Jan-2022 13:59	29-Jan-2022 14:13
Compound	CAS Number	LOR	Unit	ET2200621-080	ET2200621-081	ET2200621-082	ET2200621-083	ET2200621-084	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.25	0.53	0.19	0.12	0.09	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	0.64	0.21	0.13	0.09	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.89	3.85	1.33	0.89	0.61	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.32	0.09	0.06	0.04	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.84	7.28	2.63	1.22	0.97	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.38	0.14	0.05	0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.23	1.73	0.56	0.24	0.22	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.30	0.11	0.03	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.62	0.21	0.06	0.07	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_220129	0874_SW117_220129	0874_SW118_220129	0874_SW115_220129	0874_SW116_220129
Sampling date / time					29-Jan-2022 01:33	29-Jan-2022 13:40	29-Jan-2022 13:52	29-Jan-2022 13:59	29-Jan-2022 14:13
Compound	CAS Number	LOR	Unit	ET2200621-080	ET2200621-081	ET2200621-082	ET2200621-083	ET2200621-084	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.83	15.9	5.57	2.80	2.17	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.73	11.1	3.96	2.11	1.58	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.61	14.9	5.27	2.61	2.04	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.6	99.1	94.7	106	97.1	
13C8-PFOA	----	0.02	%	101	103	93.1	102	98.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW109_220129	0874_SW108_220129	0874_QC303_220129	0874_SW127_220130	0874_SW129_220130
Sampling date / time					29-Jan-2022 14:24	29-Jan-2022 14:31	29-Jan-2022 14:35	30-Jan-2022 08:37	30-Jan-2022 08:50
Compound	CAS Number	LOR	Unit	ET2200621-085	ET2200621-086	ET2200621-087	ET2200621-088	ET2200621-089	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.37	0.15	<0.01	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.60	0.38	<0.01	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.12	0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW109_220129	0874_SW108_220129	0874_QC303_220129	0874_SW127_220130	0874_SW129_220130
Sampling date / time					29-Jan-2022 14:24	29-Jan-2022 14:31	29-Jan-2022 14:35	30-Jan-2022 08:37	30-Jan-2022 08:50
Compound	CAS Number	LOR	Unit	ET2200621-085	ET2200621-086	ET2200621-087	ET2200621-088	ET2200621-089	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.29	0.57	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.97	0.53	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.22	0.57	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.5	108	108	93.6	108	
13C8-PFOA	----	0.02	%	97.6	99.9	101	99.4	98.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_220130	0874_SW014_220130	0874_SW017_220130	0874_QC108_220130	0874_SW125_220130
Sampling date / time				30-Jan-2022 09:28	30-Jan-2022 09:50	30-Jan-2022 10:04	30-Jan-2022 10:05	30-Jan-2022 10:25	
Compound	CAS Number	LOR	Unit	ET2200621-090	ET2200621-091	ET2200621-092	ET2200621-093	ET2200621-094	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.06	<0.02	0.02	0.02	1.78	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	1.93	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	0.01	0.04	0.04	13.7	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.85	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.13	0.01	0.04	0.03	17.4	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.8	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.04	<0.02	<0.03	<0.04	1.12	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	<0.02	<0.02	5.34	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.38	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	<0.01	<0.01	0.64	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_220130	0874_SW014_220130	0874_SW017_220130	0874_QC108_220130	0874_SW125_220130
Sampling date / time					30-Jan-2022 09:28	30-Jan-2022 09:50	30-Jan-2022 10:04	30-Jan-2022 10:05	30-Jan-2022 10:25
Compound	CAS Number	LOR	Unit	ET2200621-090	ET2200621-091	ET2200621-092	ET2200621-093	ET2200621-094	ET2200621-094
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.29	0.02	0.10	0.09	0.09	43.9
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.23	0.02	0.08	0.07	0.07	31.1
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.29	0.02	0.10	0.09	0.09	41.2
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	89.2	105	91.6	91.7	91.7	109
13C8-PFOA	----	0.02	%	96.2	102	100	99.0	99.0	97.9



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_220130	0874_SW016_220130	0874_SW102_220130	0874_SW123_220130	0874_SW010_220130
Sampling date / time				30-Jan-2022 10:51	30-Jan-2022 11:10	30-Jan-2022 11:27	30-Jan-2022 11:48	30-Jan-2022 12:11	
Compound	CAS Number	LOR	Unit	ET2200621-095	ET2200621-096	ET2200621-097	ET2200621-098	ET2200621-099	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	<0.02	0.04	0.88	0.24	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	<0.02	0.03	0.98	0.27	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.44	0.04	0.29	5.86	1.90	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	<0.02	<0.02	0.64	0.14	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.36	0.15	0.49	10.0	3.86	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.3	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	<0.02	<0.04	0.50	0.20	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.14	<0.02	0.06	1.62	0.72	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.18	0.17	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	0.01	0.37	0.38	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_220130	0874_SW016_220130	0874_SW102_220130	0874_SW123_220130	0874_SW010_220130
Sampling date / time				30-Jan-2022 10:51	30-Jan-2022 11:10	30-Jan-2022 11:27	30-Jan-2022 11:48	30-Jan-2022 12:11	
Compound	CAS Number	LOR	Unit	ET2200621-095	ET2200621-096	ET2200621-097	ET2200621-098	ET2200621-099	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.15	0.19	0.92	21.3	8.08	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.80	0.19	0.78	15.9	5.76	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.06	0.19	0.89	19.7	7.67	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	88.3	103	96.5	95.4	103	
13C8-PFOA	----	0.02	%	94.7	101	99.9	100	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_220130	0874_SW121_220130	0874_QC109_220130	0874_SW117_220130	0874_SW118_220130
Sampling date / time					30-Jan-2022 12:21	30-Jan-2022 12:43	30-Jan-2022 12:44	30-Jan-2022 13:10	30-Jan-2022 13:21
Compound	CAS Number	LOR	Unit	ET2200621-100	ET2200621-101	ET2200621-102	ET2200621-103	ET2200621-104	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.04	0.20	0.21	0.67	0.30	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.33	0.14	0.13	0.74	0.34	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	7.90	0.67	0.66	4.63	2.03	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.57	0.02	0.02	0.35	0.15	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	14.0	0.53	0.53	7.87	3.29	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.2	0.2	0.3	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.64	0.12	0.11	0.43	0.18	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.18	0.22	0.20	2.12	0.95	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.56	<0.03	<0.03	0.37	0.17	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.12	0.02	0.03	0.76	0.30	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_220130	0874_SW121_220130	0874_QC109_220130	0874_SW117_220130	0874_SW118_220130
Sampling date / time					30-Jan-2022 12:21	30-Jan-2022 12:43	30-Jan-2022 12:44	30-Jan-2022 13:10	30-Jan-2022 13:21
Compound	CAS Number	LOR	Unit	ET2200621-100	ET2200621-101	ET2200621-102	ET2200621-103	ET2200621-104	ET2200621-104
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	30.8	2.12	2.09	18.2	7.81	7.81
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	21.9	1.20	1.19	12.5	5.32	5.32
Sum of PFAS (WA DER List)	----	0.01	µg/L	28.8	1.96	1.94	17.2	7.32	7.32
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	109	97.8	105	97.1	97.1
13C8-PFOA	----	0.02	%	101	96.1	94.3	109	95.9	95.9



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_220130	0874_SW116_220130	0874_SW109_220130	0874_SW108_220130	0874_QC304_220130
Sampling date / time				30-Jan-2022 13:32	30-Jan-2022 13:42	30-Jan-2022 14:03	30-Jan-2022 14:13	30-Jan-2022 14:18	
Compound	CAS Number	LOR	Unit	ET2200621-105	ET2200621-106	ET2200621-107	ET2200621-108	ET2200621-109	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.12	0.08	0.04	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	0.07	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.87	0.52	0.24	0.11	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.03	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.28	0.62	0.42	0.24	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.27	0.15	0.06	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.07	0.03	0.02	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_220130	0874_SW116_220130	0874_SW109_220130	0874_SW108_220130	0874_QC304_220130
Sampling date / time					30-Jan-2022 13:32	30-Jan-2022 13:42	30-Jan-2022 14:03	30-Jan-2022 14:13	30-Jan-2022 14:18
Compound	CAS Number	LOR	Unit	ET2200621-105	ET2200621-106	ET2200621-107	ET2200621-108	ET2200621-109	ET2200621-109
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.83	1.50	0.81	0.37	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.15	1.14	0.66	0.35	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.65	1.40	0.78	0.37	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	107	96.0	106	96.5	96.5
13C8-PFOA	----	0.02	%	96.8	106	89.0	107	98.8	98.8



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW129_220128	----	----	----	----
		Sampling date / time		28-Jan-2022 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2200621-110	-----	-----	-----	-----
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID	0874_SW129_220128	----	----	----	----
		Sampling date / time	28-Jan-2022 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2200621-110	-----	-----	-----
				Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued							
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----
EP231P: PFAS Sums							
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----
EP231S: PFAS Surrogate							
13C4-PFOS	----	0.02	%	99.0	----	----	----
13C8-PFOA	----	0.02	%	98.6	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids



QUALITY CONTROL REPORT

Work Order : ET2200621
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 32929
Sampler :
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 56
No. of samples analysed : 56

Page : 1 of 13
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 02-Feb-2022
Date Analysis Commenced : 07-Feb-2022
Issue Date : 17-Feb-2022



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], 2IC Organic Chemist, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159845)									
ET2200621-066	0874_SW112_220129	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.12	0.11	10.2	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.14	11.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2200621-077	0874_SW123_220129	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.92	1.99	3.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	3.76	3.63	3.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.31	0.31	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.32	0.33	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.25	0.22	15.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159846)									
ET2200621-081	0874_SW117_220129	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.85	3.81	0.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	7.28	6.20	16.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.53	0.51	3.7	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.64	0.63	0.0	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.32	0.28	13.2	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2200621-097	0874_SW102_220130	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.29	0.32	7.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.49	0.52	4.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4159846) - continued											
ET2200621-097	0874_SW102_220130	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159845)											
ET2200621-066	0874_SW112_220129	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.05	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2200621-077	0874_SW123_220129	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.14	0.0	0% - 50%
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.17	0.17	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.55	0.56	0.0	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.07	0.06	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit				
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159846)											
ET2200621-081	0874_SW117_220129	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.62	0.59	4.4	0% - 20%		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.38	0.38	0.0	0% - 50%		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.73	1.73	0.0	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.30	0.31	4.5	0% - 50%		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.02	0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.0	No Limit		
		ET2200621-097	0874_SW102_220130	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.06	0.06	0.0	No Limit		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit		



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4159846) - continued									
ET2200621-097	0874_SW102_220130	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159845)									
ET2200621-066	0874_SW112_220129	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200621-077	0874_SW123_220129	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159846)									
ET2200621-081	0874_SW117_220129	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4159846) - continued									
ET2200621-081	0874_SW117_220129	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200621-097	0874_SW102_220130	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159845)									
ET2200621-066	0874_SW112_220129	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200621-077	0874_SW123_220129	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159846)									
ET2200621-081	0874_SW117_220129	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4159846) - continued									
ET2200621-081	0874_SW117_220129	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2200621-097	0874_SW102_220130	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4159845)									
ET2200621-066	0874_SW112_220129	EP231X: Sum of PFAS	----	0.01	µg/L	0.36	0.36	0.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.28	0.25	11.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.36	0.36	0.0	0% - 20%
ET2200621-077	0874_SW123_220129	EP231X: Sum of PFAS	----	0.01	µg/L	7.59	7.51	1.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.68	5.62	1.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	7.02	6.96	0.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 4159846)									
ET2200621-081	0874_SW117_220129	EP231X: Sum of PFAS	----	0.01	µg/L	15.9	14.7	7.9	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.1	10.0	10.6	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	14.9	13.7	8.1	0% - 20%
ET2200621-097	0874_SW102_220130	EP231X: Sum of PFAS	----	0.01	µg/L	0.92	0.99	7.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.78	0.84	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.89	0.95	6.5	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159845)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	104	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	107	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	106	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	105	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159846)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	108	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	112	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	114	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	115	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159849)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	97.4	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	97.1	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	107	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4167142)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	111	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	115	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	108	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	112	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	111	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	114	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159845)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	101	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	113	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	130	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159845) - continued									
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	99.4	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159846)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	108	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	106	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	126	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159849)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	98.8	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4167142)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.9	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	112	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4167142) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159845)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	112	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	117	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	105	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159846)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	119	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	112	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	95.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	134	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	129	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	121	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159849)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	94.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	102	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	101	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	98.5	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.2	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	89.6	61.0	135	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4167142)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	102	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.9	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159845)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	112	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	117	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	118	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159846)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	116	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	125	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	96.5	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159849)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	107	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	110	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	106	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	106	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4167142)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	115	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	115	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	108	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	115	64.2	133	
EP231P: PFAS Sums (QCLot: 4159845)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 4159846)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4159846) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4159849)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4167142)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159845)							
ET2200621-073	0874_SW131_220129	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	116	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	116	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	120	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	104	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	88.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	108	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4159846)							
ET2200621-090	0874_SW112_220130	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	103	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	106	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	114	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	126	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	123	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159845)							
ET2200621-073	0874_SW131_220129	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	114	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	120	72.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159845) - continued							
ET2200621-073	0874_SW131_220129	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	107	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	120	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	114	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	109	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	107	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	113	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	125	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	112	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4159846)							
ET2200621-090	0874_SW112_220130	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	103	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	121	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	118	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	110	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	105	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	103	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	98.0	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	128	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159845)					
ET2200621-073	0874_SW131_220129	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	114	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	119	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	115	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	125	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	119	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	116	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	112	61.0	135
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159846)					
ET2200621-090	0874_SW112_220130	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	109	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	102	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4159846) - continued							
ET2200621-090	0874_SW112_220130	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	95.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	126	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	114	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	121	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159845)							
ET2200621-073	0874_SW131_220129	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	123	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	122	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	112	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	127	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4159846)							
ET2200621-090	0874_SW112_220130	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	114	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	118	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	107	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	89.5	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2200621	Page	: 1 of 9
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 02-Feb-2022
Site	: QLD_0874	Issue Date	: 17-Feb-2022
Sampler	: [REDACTED]	No. of samples received	: 56
Order number	: 60612487_2.1	No. of samples analysed	: 56

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	56	7.14	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	2	56	3.57	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_SW129_220128	28-Jan-2022	10-Feb-2022	27-Jul-2022	✔	10-Feb-2022	27-Jul-2022	✔
HDPE (no PTFE) (EP231X) 0874_SW112_220128, 0874_SW017_220128, 0874_SW117_220128, 0874_SW116_220128, 0874_SW108_220128, 0874_SW115_220128 0874_SW014_220128, 0874_QC105_220128, 0874_SW118_220128, 0874_SW109_220128, 0874_QC302_220128	28-Jan-2022	11-Feb-2022	27-Jul-2022	✔	11-Feb-2022	27-Jul-2022	✔
HDPE (no PTFE) (EP231X) 0874_SW112_220129, 0874_QC106_220129, 0874_SW129_220129, 0874_SW125_220129, 0874_SW102_220129, 0874_SW016_220129, 0874_SW010_220129, 0874_SW121_220129 0874_SW014_220129, 0874_SW127_220129, 0874_SW017_220129, 0874_SW131_220129, 0874_QC107_220129, 0874_SW123_220129, 0874_SW132_220129	29-Jan-2022	11-Feb-2022	28-Jul-2022	✔	11-Feb-2022	28-Jul-2022	✔
HDPE (no PTFE) (EP231X) 0874_SW117_220129, 0874_SW115_220129, 0874_SW109_220129, 0874_QC303_220129 0874_SW118_220129, 0874_SW116_220129, 0874_SW108_220129	29-Jan-2022	14-Feb-2022	28-Jul-2022	✔	14-Feb-2022	28-Jul-2022	✔
HDPE (no PTFE) (EP231X)							



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
0874_SW121_220130, 0874_SW117_220130, 0874_SW115_220130, 0874_SW109_220130, 0874_QC304_220130	0874_QC109_220130, 0874_SW118_220130, 0874_SW116_220130, 0874_SW108_220130,	30-Jan-2022	10-Feb-2022	29-Jul-2022	✓	10-Feb-2022	29-Jul-2022	✓
HDPE (no PTFE) (EP231X)								
0874_SW127_220130, 0874_SW112_220130, 0874_SW017_220130, 0874_SW125_220130, 0874_SW016_220130, 0874_SW123_220130, 0874_SW132_220130	0874_SW129_220130, 0874_SW014_220130, 0874_QC108_220130, 0874_SW131_220130, 0874_SW102_220130, 0874_SW010_220130,	30-Jan-2022	14-Feb-2022	29-Jul-2022	✓	14-Feb-2022	29-Jul-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_220128	28-Jan-2022	10-Feb-2022	27-Jul-2022	✓	10-Feb-2022	27-Jul-2022	✓	
HDPE (no PTFE) (EP231X) 0874_SW112_220128, 0874_SW017_220128, 0874_SW117_220128, 0874_SW116_220128, 0874_SW108_220128, 0874_SW115_220128	0874_SW014_220128, 0874_QC105_220128, 0874_SW118_220128, 0874_SW109_220128, 0874_QC302_220128,	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220129, 0874_QC106_220129, 0874_SW129_220129, 0874_SW125_220129, 0874_SW102_220129, 0874_SW016_220129, 0874_SW010_220129, 0874_SW121_220129	0874_SW014_220129, 0874_SW127_220129, 0874_SW017_220129, 0874_SW131_220129, 0874_QC107_220129, 0874_SW123_220129, 0874_SW132_220129,	29-Jan-2022	11-Feb-2022	28-Jul-2022	✓	11-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_220129, 0874_SW115_220129, 0874_SW109_220129, 0874_QC303_220129	0874_SW118_220129, 0874_SW116_220129, 0874_SW108_220129,	29-Jan-2022	14-Feb-2022	28-Jul-2022	✓	14-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW121_220130, 0874_SW117_220130, 0874_SW115_220130, 0874_SW109_220130, 0874_QC304_220130	0874_QC109_220130, 0874_SW118_220130, 0874_SW116_220130, 0874_SW108_220130,	30-Jan-2022	10-Feb-2022	29-Jul-2022	✓	10-Feb-2022	29-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW127_220130, 0874_SW112_220130, 0874_SW017_220130, 0874_SW125_220130, 0874_SW016_220130, 0874_SW123_220130, 0874_SW132_220130	0874_SW129_220130, 0874_SW014_220130, 0874_QC108_220130, 0874_SW131_220130, 0874_SW102_220130, 0874_SW010_220130,	30-Jan-2022	14-Feb-2022	29-Jul-2022	✓	14-Feb-2022	29-Jul-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW129_220128	28-Jan-2022	10-Feb-2022	27-Jul-2022	✓	10-Feb-2022	27-Jul-2022	✓	
HDPE (no PTFE) (EP231X) 0874_SW112_220128, 0874_SW017_220128, 0874_SW117_220128, 0874_SW116_220128, 0874_SW108_220128, 0874_SW115_220128	0874_SW014_220128, 0874_QC105_220128, 0874_SW118_220128, 0874_SW109_220128, 0874_QC302_220128,	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220129, 0874_QC106_220129, 0874_SW129_220129, 0874_SW125_220129, 0874_SW102_220129, 0874_SW016_220129, 0874_SW010_220129, 0874_SW121_220129	0874_SW014_220129, 0874_SW127_220129, 0874_SW017_220129, 0874_SW131_220129, 0874_QC107_220129, 0874_SW123_220129, 0874_SW132_220129,	29-Jan-2022	11-Feb-2022	28-Jul-2022	✓	11-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_220129, 0874_SW115_220129, 0874_SW109_220129, 0874_QC303_220129	0874_SW118_220129, 0874_SW116_220129, 0874_SW108_220129,	29-Jan-2022	14-Feb-2022	28-Jul-2022	✓	14-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW121_220130, 0874_SW117_220130, 0874_SW115_220130, 0874_SW109_220130, 0874_QC304_220130	0874_QC109_220130, 0874_SW118_220130, 0874_SW116_220130, 0874_SW108_220130,	30-Jan-2022	10-Feb-2022	29-Jul-2022	✓	10-Feb-2022	29-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW127_220130, 0874_SW112_220130, 0874_SW017_220130, 0874_SW125_220130, 0874_SW016_220130, 0874_SW123_220130, 0874_SW132_220130	0874_SW129_220130, 0874_SW014_220130, 0874_QC108_220130, 0874_SW131_220130, 0874_SW102_220130, 0874_SW010_220130,	30-Jan-2022	14-Feb-2022	29-Jul-2022	✓	14-Feb-2022	29-Jul-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW129_220128	28-Jan-2022	10-Feb-2022	27-Jul-2022	✓	10-Feb-2022	27-Jul-2022	✓	
HDPE (no PTFE) (EP231X) 0874_SW112_220128, 0874_SW017_220128, 0874_SW117_220128, 0874_SW116_220128, 0874_SW108_220128, 0874_SW115_220128	0874_SW014_220128, 0874_QC105_220128, 0874_SW118_220128, 0874_SW109_220128, 0874_QC302_220128,	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220129, 0874_QC106_220129, 0874_SW129_220129, 0874_SW125_220129, 0874_SW102_220129, 0874_SW016_220129, 0874_SW010_220129, 0874_SW121_220129	0874_SW014_220129, 0874_SW127_220129, 0874_SW017_220129, 0874_SW131_220129, 0874_QC107_220129, 0874_SW123_220129, 0874_SW132_220129,	29-Jan-2022	11-Feb-2022	28-Jul-2022	✓	11-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_220129, 0874_SW115_220129, 0874_SW109_220129, 0874_QC303_220129	0874_SW118_220129, 0874_SW116_220129, 0874_SW108_220129,	29-Jan-2022	14-Feb-2022	28-Jul-2022	✓	14-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW121_220130, 0874_SW117_220130, 0874_SW115_220130, 0874_SW109_220130, 0874_QC304_220130	0874_QC109_220130, 0874_SW118_220130, 0874_SW116_220130, 0874_SW108_220130,	30-Jan-2022	10-Feb-2022	29-Jul-2022	✓	10-Feb-2022	29-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW127_220130, 0874_SW112_220130, 0874_SW017_220130, 0874_SW125_220130, 0874_SW016_220130, 0874_SW123_220130, 0874_SW132_220130	0874_SW129_220130, 0874_SW014_220130, 0874_QC108_220130, 0874_SW131_220130, 0874_SW102_220130, 0874_SW010_220130,	30-Jan-2022	14-Feb-2022	29-Jul-2022	✓	14-Feb-2022	29-Jul-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW129_220128	28-Jan-2022	10-Feb-2022	27-Jul-2022	✓	10-Feb-2022	27-Jul-2022	✓	
HDPE (no PTFE) (EP231X) 0874_SW112_220128, 0874_SW017_220128, 0874_SW117_220128, 0874_SW116_220128, 0874_SW108_220128, 0874_SW115_220128	0874_SW014_220128, 0874_QC105_220128, 0874_SW118_220128, 0874_SW109_220128, 0874_QC302_220128,	28-Jan-2022	11-Feb-2022	27-Jul-2022	✓	11-Feb-2022	27-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW112_220129, 0874_QC106_220129, 0874_SW129_220129, 0874_SW125_220129, 0874_SW102_220129, 0874_SW016_220129, 0874_SW010_220129, 0874_SW121_220129	0874_SW014_220129, 0874_SW127_220129, 0874_SW017_220129, 0874_SW131_220129, 0874_QC107_220129, 0874_SW123_220129, 0874_SW132_220129,	29-Jan-2022	11-Feb-2022	28-Jul-2022	✓	11-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW117_220129, 0874_SW115_220129, 0874_SW109_220129, 0874_QC303_220129	0874_SW118_220129, 0874_SW116_220129, 0874_SW108_220129,	29-Jan-2022	14-Feb-2022	28-Jul-2022	✓	14-Feb-2022	28-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW121_220130, 0874_SW117_220130, 0874_SW115_220130, 0874_SW109_220130, 0874_QC304_220130	0874_QC109_220130, 0874_SW118_220130, 0874_SW116_220130, 0874_SW108_220130,	30-Jan-2022	10-Feb-2022	29-Jul-2022	✓	10-Feb-2022	29-Jul-2022	✓
HDPE (no PTFE) (EP231X) 0874_SW127_220130, 0874_SW112_220130, 0874_SW017_220130, 0874_SW125_220130, 0874_SW016_220130, 0874_SW123_220130, 0874_SW132_220130	0874_SW129_220130, 0874_SW014_220130, 0874_QC108_220130, 0874_SW131_220130, 0874_SW102_220130, 0874_SW010_220130,	30-Jan-2022	14-Feb-2022	29-Jul-2022	✓	14-Feb-2022	29-Jul-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	56	7.14	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	56	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	56	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	56	3.57	5.00	✘	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



Australian Government
Department of Industry,
Innovation and Science

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/220203
Total No. of Samples: 10

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/001926	10-FEB-2022	0874_QC200_220126	WATER 26/01/2022

105 Delhi Road, North Ryde, NSW 2113 Tel: +61 2 9449 0111 www.measurement.gov.au

N a t i o n a l M e a s u r e m e n t I n s t i t u t e

N22/001927	10-FEB-2022	0874_QC201_220126	WATER 26/01/2022
N22/001928	10-FEB-2022	0874_QC202_220127	WATER 27/01/2022
N22/001929	10-FEB-2022	0874_QC203_220127	WATER 27/01/2022
N22/001930	10-FEB-2022	0874_QC204_220128	WATER 28/01/2022
N22/001931	10-FEB-2022	0874_QC205_220128	WATER 28/01/2022
N22/001932	10-FEB-2022	0874_QC206_220129	WATER 29/01/2022
N22/001933	10-FEB-2022	0874_QC207_220129	WATER 29/01/2022
N22/001934	10-FEB-2022	0874_QC208_220130	WATER 30/01/2022
N22/001935	10-FEB-2022	0874_QC209_220130	WATER 30/01/2022

SAMPLE RECEIVED CONDITION

Date samples received:	3-FEB-2022
Sample received in good order:	Yes
NMI Quotation no. provided:	QLD_0874
Client purchase order number:	60612487_2_1
Temperature of samples:	Chilled
Comments:	ALL OK
Mode of Delivery:	Courier

105 Delhi Road, North Ryde, NSW 2113 Tel: + 61 2 9449 0111 www.measurement.gov.au

N a t i o n a l M e a s u r e m e n t I n s t i t u t e

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation.

NMI Terms and Conditions are available on the web at

<https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/220203
	Quote No. :
	Order No. : 60612487_2_1
	Date Received : 03-FEB-2022
Attention :	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager :	Phone :

Lab Reg No.	Sample Ref	Sample Description
N22/001926	0874_QC200_220126	WATER 26/01/2022
N22/001927	0874_QC201_220126	WATER 26/01/2022
N22/001928	0874_QC202_220127	WATER 27/01/2022
N22/001929	0874_QC203_220127	WATER 27/01/2022

Lab Reg No.		N22/001926	N22/001927	N22/001928	N22/001929	
Date Sampled		26-JAN-2022	26-JAN-2022	27-JAN-2022	27-JAN-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	0.075	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	0.096	NR70
PFHxA (307-24-4)	ug/L	0.019	0.027	<0.01	0.20	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	<0.01	0.066	NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01	<0.01	0.13	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDaA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	<0.01	0.011	<0.01	0.069	NR70
PFHxS (355-46-4)	ug/L	0.042	0.074	<0.01	0.63	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	<0.01	0.027	NR70
PFOS (1763-23-1)	ug/L	0.032	0.31	<0.02	1.7	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	<0.01	0.015	<0.01	0.079	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.		N22/001926	N22/001927	N22/001928	N22/001929	
Date Sampled		26-JAN-2022	26-JAN-2022	27-JAN-2022	27-JAN-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	0.019	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	115	105	108	108	NR70
PFPeA (Surrogate Recovery)	%	165	115	131	128	NR70
PFHxA (Surrogate Recovery)	%	111	104	112	103	NR70
PFHpA (Surrogate Recovery)	%	110	101	109	106	NR70
PFOA (Surrogate Recovery)	%	116	105	107	104	NR70
PFNA (Surrogate Recovery)	%	102	95	108	82	NR70
PFDA (Surrogate Recovery)	%	75	77	92	95	NR70
PFUdA (Surrogate Recovery)	%	70	79	101	111	NR70
PFDoA (Surrogate Recovery)	%	66	65	73	64	NR70
PFTeDA (Surrogate Recovery)	%	71	75	72	54	NR70
PFHxDA (Surrogate Recovery)	%	106	50	58	71	NR70
FOUEA (Surrogate Recovery)	%	88	79	92	103	NR70
PFBS (Surrogate Recovery)	%	109	99	104	103	NR70
PFHxS (Surrogate Recovery)	%	109	102	110	108	NR70
PFOS (Surrogate Recovery)	%	106	98	105	104	NR70
PFOSA (Surrogate Recovery)	%	64	67	82	69	NR70
N-MeFOSA (Surrogate Recovery)	%	54	56	66	64	NR70
N-EtFOSA (Surrogate Recovery)	%	51	50	61	65	NR70
N-MeFOSAA (Surrogate Recovery)	%	59	71	88	76	NR70
N-EtFOSAA (Surrogate Recovery)	%	50	63	77	72	NR70
N-MeFOSE (Surrogate Recovery)	%	66	51	80	65	NR70
N-EtFOSE (Surrogate Recovery)	%	49	51	63	80	NR70
4:2 FTS (Surrogate Recovery)	%	148	134	149	188	NR70
6:2 FTS (Surrogate Recovery)	%	108	112	125	145	NR70
8:2 FTS (Surrogate Recovery)	%	64	88	97	116	NR70
8:2 diPAP (Surrogate Recovery)	%	86	83	90	97	NR70
Dates						
Date extracted		8-FEB-2022	8-FEB-2022	8-FEB-2022	8-FEB-2022	
Date analysed		9-FEB-2022	9-FEB-2022	9-FEB-2022	9-FEB-2022	

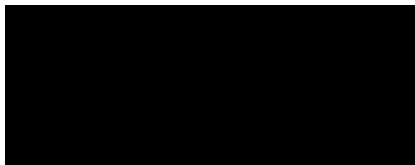
N22/001926
to
N22/001935

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
High PFAS surrogate recoveries accepted - results corrected for recovery.



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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220203 Quote No. : Order No. : 60612487_2_1 Date Received : 03-FEB-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/001930	0874_QC204_220128	WATER 28/01/2022
N22/001931	0874_QC205_220128	WATER 28/01/2022
N22/001932	0874_QC206_220129	WATER 29/01/2022
N22/001933	0874_QC207_220129	WATER 29/01/2022

Lab Reg No.		N22/001930	N22/001931	N22/001932	N22/001933	
Date Sampled		28-JAN-2022	28-JAN-2022	29-JAN-2022	29-JAN-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.12	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.15	<0.02	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.52	<0.01	<0.01	0.026	NR70
PFHpA (375-85-9)	ug/L	0.10	<0.01	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L	0.22	<0.01	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.20	<0.01	<0.01	0.016	NR70
PFHxS (355-46-4)	ug/L	1.6	<0.01	<0.01	0.16	NR70
PFHpS (375-92-8)	ug/L	0.070	<0.01	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L	3.4	<0.02	<0.02	0.27	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.22	<0.01	<0.01	0.021	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.		N22/001930	N22/001931	N22/001932	N22/001933	
Date Sampled		28-JAN-2022	28-JAN-2022	29-JAN-2022	29-JAN-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.012	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	119	105	101	105	NR70
PFPeA (Surrogate Recovery)	%	136	107	122	115	NR70
PFHxA (Surrogate Recovery)	%	109	97	98	104	NR70
PFHpA (Surrogate Recovery)	%	120	102	97	104	NR70
PFOA (Surrogate Recovery)	%	122	102	100	100	NR70
PFNA (Surrogate Recovery)	%	87	104	78	94	NR70
PFDA (Surrogate Recovery)	%	107	86	70	93	NR70
PFUdA (Surrogate Recovery)	%	76	79	81	79	NR70
PFDoA (Surrogate Recovery)	%	93	78	74	80	NR70
PFTeDA (Surrogate Recovery)	%	59	60	68	62	NR70
PFHxDA (Surrogate Recovery)	%	76	59	62	66	NR70
FOUEA (Surrogate Recovery)	%	108	83	82	85	NR70
PFBS (Surrogate Recovery)	%	112	96	94	106	NR70
PFHxS (Surrogate Recovery)	%	114	97	96	107	NR70
PFOS (Surrogate Recovery)	%	113	101	92	93	NR70
PFOSA (Surrogate Recovery)	%	81	69	73	82	NR70
N-MeFOSA (Surrogate Recovery)	%	79	52	76	77	NR70
N-EtFOSA (Surrogate Recovery)	%	70	48	74	74	NR70
N-MeFOSAA (Surrogate Recovery)	%	89	76	85	90	NR70
N-EtFOSAA (Surrogate Recovery)	%	87	66	69	80	NR70
N-MeFOSE (Surrogate Recovery)	%	66	47	58	67	NR70
N-EtFOSE (Surrogate Recovery)	%	66	58	65	82	NR70
4:2 FTS (Surrogate Recovery)	%	199	126	135	132	NR70
6:2 FTS (Surrogate Recovery)	%	144	106	110	128	NR70
8:2 FTS (Surrogate Recovery)	%	115	98	69	91	NR70
8:2 diPAP (Surrogate Recovery)	%	113	92	79	90	NR70
Dates						
Date extracted		8-FEB-2022	8-FEB-2022	8-FEB-2022	8-FEB-2022	
Date analysed		9-FEB-2022	9-FEB-2022	9-FEB-2022	9-FEB-2022	

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Lab Reg No.		N22/001930	N22/001931	N22/001932	N22/001933	
Date Sampled		28-JAN-2022	28-JAN-2022	29-JAN-2022	29-JAN-2022	
	Units					Method



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Report No. RN1341907

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220203 Quote No. : Order No. : 60612487_2_1 Date Received : 03-FEB-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/001934	0874_QC208_220130	WATER 30/01/2022
N22/001935	0874_QC209_220130	WATER 30/01/2022

Lab Reg No.		N22/001934	N22/001935			
Date Sampled		30-JAN-2022	30-JAN-2022			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	<0.05	0.24			NR70
PFPeA (2706-90-3)	ug/L	<0.02	0.12			NR70
PFHxA (307-24-4)	ug/L	0.013	0.19			NR70
PFHpA (375-85-9)	ug/L	<0.01	0.015			NR70
PFOA (335-67-1)	ug/L	<0.01	0.024			NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01			NR70
PFPeS (2706-91-4)	ug/L	<0.01	0.12			NR70
PFHxS (355-46-4)	ug/L	0.027	0.65			NR70
PFHpS (375-92-8)	ug/L	<0.01	0.014			NR70
PFOS (1763-23-1)	ug/L	0.028	0.50			NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01			NR70
PFBS (375-73-5)	ug/L	0.011	0.20			NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01			NR70

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Lab Reg No.		N22/001934	N22/001935			
Date Sampled		30-JAN-2022	30-JAN-2022			
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01			NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01			NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01			NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02			NR70
PFBA (Surrogate Recovery)	%	106	106			NR70
PFPeA (Surrogate Recovery)	%	124	188			NR70
PFHxA (Surrogate Recovery)	%	98	90			NR70
PFHpA (Surrogate Recovery)	%	107	98			NR70
PFOA (Surrogate Recovery)	%	101	100			NR70
PFNA (Surrogate Recovery)	%	96	75			NR70
PFDA (Surrogate Recovery)	%	87	71			NR70
PFUdA (Surrogate Recovery)	%	57	69			NR70
PFDoA (Surrogate Recovery)	%	72	64			NR70
PFTeDA (Surrogate Recovery)	%	70	51			NR70
PFHxDA (Surrogate Recovery)	%	69	62			NR70
FOUEA (Surrogate Recovery)	%	85	95			NR70
PFBS (Surrogate Recovery)	%	96	93			NR70
PFHxS (Surrogate Recovery)	%	101	99			NR70
PFOS (Surrogate Recovery)	%	95	98			NR70
PFOSA (Surrogate Recovery)	%	68	72			NR70
N-MeFOSA (Surrogate Recovery)	%	50	58			NR70
N-EtFOSA (Surrogate Recovery)	%	46	55			NR70
N-MeFOSAA (Surrogate Recovery)	%	67	88			NR70
N-EtFOSAA (Surrogate Recovery)	%	58	79			NR70
N-MeFOSE (Surrogate Recovery)	%	52	66			NR70
N-EtFOSE (Surrogate Recovery)	%	64	62			NR70
4:2 FTS (Surrogate Recovery)	%	149	177			NR70
6:2 FTS (Surrogate Recovery)	%	118	142			NR70
8:2 FTS (Surrogate Recovery)	%	84	78			NR70
8:2 diPAP (Surrogate Recovery)	%	81	83			NR70
Dates						
Date extracted		8-FEB-2022	8-FEB-2022			
Date analysed		9-FEB-2022	9-FEB-2022			

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10-FEB-2022

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

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COMPETENCE**

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This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1341879*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/220203

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
				N22/001926				
PFBA (375-22-4)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	98	88
PFP6A (2706-90-3)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	90	99
PFHxA (307-24-4)	NR70	0.01	< 0.01	0.019	0.017	11	89	105
PFHpA (375-85-9)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	87	108
PFOA (335-67-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	94	114
PFNA (375-95-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	93	90
PFDA (335-76-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	76	95
PFUDa (2058-94-8)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	103	86
PFDA (307-55-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	108	111
PFTrDA (72629-94-8)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	99	103
PFTeDA (376-06-7)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	83	110
PFHxDA (67905-19-5)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	50	118
PFOA (16517-11-6)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	150	146
FOUEA (70887-84-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	90	93
PFBS (375-73-5)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	91	99
PFP6S (2706-91-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	91	109
PFHXS (355-46-4)	NR70	0.01	< 0.01	0.042	0.041	2.0	95	113
PFHpS (375-92-8)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	95	102
PFOS (1763-23-1)	NR70	0.02	< 0.02	0.032	0.03	6.0	90	106
PFNS (68259-12-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	87	87
PFDS (335-77-3)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	90	77
PFOA (754-91-6)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	92	98
N-MeFOSA (31506-32-8)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	93	102
N-EtFOSA (4151-50-2)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	95	101
N-MeFOSAA (2355-31-9)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	94	109
N-EtFOSAA (2991-50-6)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	85	93
N-MeFOSE (24448-09-7)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	86	88
N-EtFOSE (1691-99-2)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	88	125
4:2 FTS (757124-72-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	94	103
6:2 FTS (27619-97-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	93	104
8:2 FTS (39108-34-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	98	109
10:2 FTS (120226-60-0)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	96	81
8:2 diPAP (678-41-1)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	93	102

Results expressed in percentage (%) or ug/L wherever appropriate.

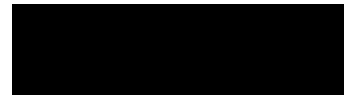
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
10/02/2022

Date:

Appendix F

Calibration Certificates

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS AMP - RAAF TSV		Project Number:	60612487-2.1	
Project Location:	TOWNSVILLE		Client:	DEPT OF DEFENCE	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI PRODS5				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	26/1/22 0840				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm % (08:57)
Calibration Standard Concentration:	7.01	4.00	2655	262	100%
Calibration Reading:	6.96	3.90	2810	267.8	99.5%
Calibration Temperature:	23.0	23.0	23.0	9.6	20.5
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			26/01/2022		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

FQM - Water Quality Meter Calibration Record

Project Name:	PFAS OMP	Project Number:	60612487		
Project Location:	RAAF TSU	Client:	DEFENCE		
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]		
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI PRO DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	27/1/22 0715				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2655	234.0	99.3
Calibration Reading:	7.01 7.01	4.02	2586	247.8	98.6
Calibration Temperature:	22.8	22.8	22.7	22.7	22.3
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			27/01/2022		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	60612487	
Project Location:	RAAF TSV		Client:	DEFENCE	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI PRO.DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	29/01/22		0710		
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.01	4.00	2655	233.3	99.3
Calibration Reading:	7.07	4.04	2620	234.4	98.7
Calibration Temperature:	23.5	23.5	23.2	23.2	23.0
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	30/01/22		0730		
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm
Calibration Standard Concentration:	7.01	4.00	2655	232.6	99.3
Bump Test Reading:	6.91	4.09	2630	232.3	99.3
Bump Test Temperature:	23.7	23.7	23.7	23.5	23.5
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			30/01/2022		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

Wet Season Sampling Factual Report, April 2022

PFAS OMP - RAAF Base Townsville

20-Oct-2023
PFAS Ongoing Monitoring Program - RAAF Base Townsville
Doc No. 60612487_RP69_20231020_4

Wet Season Sampling Factual Report, April 2022

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO
Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

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Document Wet Season Sampling Factual Report, April 2022

Ref 60612487

Date 20-Oct-2023

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Reviewed by [REDACTED]

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Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure, as amended (2013)
BoM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
NEMP	National Environmental Management Plan
NHMRC	National Health and Medical Research Council
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling Analysis Quality Plan
SD	Sediment
SW	Surface Water

Unit	Definition	Unit	Definition
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
µS	Microsiemens	cm	Centimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2020) at RAAF Base Townsville (the 'Base') located in the North Queensland Region. The location of the Base and the PFAS Source Areas are shown in **Figure 1** in **Appendix A**. The Monitoring Area includes areas on-Base and off-Base.

The OMP for Townsville (Defence, 2019a) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and 2022; and
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero by the Bureau of Meteorology (BoM) (2022) or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of five consecutive days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP, AECOM, 2022) provides details of the sampling events.

This sampling event factual report has been prepared to report the results of the 2022 Wet Season Sampling Event, which was completed between April and May 2022. This report specifically highlights first-time detections and/or first-time exceedances of human health screening criteria for perfluorohexane sulfonic acid (PFHxS) + perfluorooctane sulfonate (PFOS) and / or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance, v0.2*, May 2021 (Department of Defence, 2021).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP; and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2022 Wet Season Sampling Event scope of works in accordance with the SAQP (AECOM, 2022).

2.0 Scope of Work

The sampling event at the Base was completed in general accordance with the SAQP (AECOM, 2022). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (HEPA, 2020)
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Concurrent gauging of 26 groundwater monitoring wells across a single day to enable groundwater contour generation (refer to **Table T1** in **Appendix B**).
- Collection of groundwater samples at 109 locations including 63 on-Base locations, and 47 off-Base locations (refer to **Table 1** below, and **Figure 2** in **Appendix A**). Standing water level (SWL) was measured in all wells immediately prior to sampling. It is noted that a groundwater sample from one monitoring well (MW253) could not be collected during this sampling event (refer to **Section 3.7** for details).
- Collection of co-located surface water and sediment samples at 42 locations including 15 on-Base and 27 off-Base locations (refer to **Table 2** and **Table 3** below, and **Figure 2** in **Appendix A**).
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per batch.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Wet Season Sampling Event Factual Report.

Table 1 Groundwater Sampling Locations

Source Area	Monitoring Well ID
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW116, MW118, MW126, MW129
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
Sub-Management Area 3 – includes 5th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140, MW243, MW244
North west of Runway 07/25	MW112
East and south east of Sub-Management Area 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229, MW228
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW235, MW234, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base – Townsville Town Common, north of the Base	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208
Off-Base – Bohle River and Bohle Industrial Estate, west of the Base	MW231, MW237, MW238, MW239, MW240, MW254, MW262
Off-Base – Suburb of Pallarenda, north east of the Base	MW233, MW252, MW253, MW301
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW471, MW467
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270

Table 2 Surface Water Sampling Locations

Locations	Surface Water Location ID	
On-Base	Mundy Creek Catchment	SW001, SW010, SW106, SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207,
	Three Mile Creek Catchment	SW107, SW210

Table 3 Sediment Sampling Locations

Locations		Sediment Location ID
On-Base	Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126, SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

3.0 Methodology

The methodology used for 2022 Wet Season Sampling Event was in general accordance with the SAQP (AECOM, 2022) and is summarised in **Sections 3.1-3.3**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater Gauging	An initial gauging round of 26 monitoring wells using an interface probe was undertaken to enable groundwater contour generation (results detailed in Table T1, Appendix B). The depth to groundwater was also measured in each monitoring well immediately prior to the collection of groundwater samples.
Water Quality Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (results detailed in Table T2, Appendix B). Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling Methodology	Groundwater samples were collected from all monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer. Once sampling was completed, new HydraSleeves™ were deployed in preparation for the next sampling round, with the exception of those wells noted in Table T2, Appendix B .

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (results detailed in Table T4, Appendix B). Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling Methodology	Samples were collected from immediately below the water surface, with either a sampling pole or directly into laboratory supplied sample containers, to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where the waterway could not be accessed from the bank a telescopic sampler with a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into the new laboratory supplied container.

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a piston sediment sampler or with a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .

3.4 Quality Assurance/Quality Control and Analysis

The Quality Assurance/Quality Control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 7**, below.

Table 7 QAQC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e. splits), trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water and were included at a rate of one per batch of samples (excluding private property sampling). Rinsate samples were collected at a rate of one per day of sampling when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.5 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, version 2.0 (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. April 2017 [updated September 2019].
- National Health and Medical Research Council (NHMRC), 2019. *Guidance on PFAS in Recreational Water*. August 2019 (NHMRC 2019).
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the OMP (Defence, 2020) and SAQP (AECOM, 2022), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 8** below.

Table 8 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking Water	PFOS + PFHxS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). Where the guideline value refers to the sum of PFOS + PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). <i>All off base groundwater results will be compared to these criteria.</i>
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine water (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no endorsed human health or ecological guideline values available for sediment.

3.6 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2022). Data validation assessment is provided in **Appendix C**. Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event have been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2021) Annex L requirements.

3.7 Deviations from the SAQP

Table 9 lists the deviations from the SAQP (AECOM, 2022) during this sampling round.

Table 9 Deviations from the SAQP during 2022 Wet Season Sampling Event

SAQP	2022 Wet Season Sampling Event	Impact of Deviation
Damage to MW253	Monument was broken and the well was unable to be gauged and sampled due to the damage.	Minimal impact – location was last sampled on 12 October 2021 and will be sampled again in the dry season of 2022. There are also two other wells in Pallarenda to provide coverage of the area that were sampled as part of the April groundwater monitoring round.
Sampling to be completed in April 2022	Sampling of the Bohle River catchment by boat completed in the first week of May due to more favourable tidal conditions and availability of subcontractors.	Minimal impact. Sampling completed during favourable tidal conditions (for a neep tide) and availability of subcontractor to operate vessel. Sampling was previously also completed in May 2019 with minimal impact to the OMP sampling.

4.0 Field Observations and Results

The 2022 Wet Season Sampling Event was completed between 11 April and 5 May 2022. Groundwater gauging and deployment of HydraSleeves™ was conducted at the beginning of the sampling round.

The results are summarised in the following sections.

Details on weather conditions and estate management works or training activities during the sampling event are recorded in **Table 10**.

Table 10 Weather Conditions and Estate Activities at Time of Sampling

Item	Observations
Weather Conditions	Weather was warm and sunny during the sampling program in April and May 2022.
Estate Management Works or Training Activities	No active remediation was underway during the sampling program.

The results of the sampling event are summarised in **Sections 4.1-0**.

4.1 Groundwater

4.1.1 Observations and Field Measurements

Table 11 Groundwater Observations and Field Measurements

Item	Observations
Access	All monitoring wells were accessible.
Monitoring Well Network	The headworks at one monitoring well, MW253 was damaged during the 2022 wet season sampling event and was unable to be sampled. The monument requires replacement.
Field Observations	Groundwater from six monitoring well locations (MW013, MW138, MW203, MW226, MW244 and MW268) had a sulphurous odour. Organic odours were recorded during the sampling of monitoring wells MW118, MW129, MW140, MW206, MW221, MW267 and MW301. Groundwater colour was typically recorded as turbid light brown/yellow, to clear/low turbidity. No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells. Field observations are presented Table T2, Appendix B .
Depth to Groundwater	For the entire April dataset, depth to groundwater ranged between 0.646 (MW002) and 7.898 (MW261) metres below top of casing (mBTOC). Groundwater elevations were between -0.747 (MW046) and 8.60 metres Australian Height Datum (mAHD) (MW261). These groundwater gauging data are presented in Table T2, Appendix B . For the gauging event on 12 April 2022 (presented in Table T1, Appendix B), depth to groundwater ranged between 0.646 (MW002) and 2.918 mbtoc (MW239). Groundwater elevations were between 0.734 (MW215) and 4.036 (MW223).
Groundwater Flow Direction	Groundwater contours and inferred groundwater flow directions for the gauging event on 12 April 2022 are shown on Figure 4 in Appendix A . In the central and western portions of the base the inferred local groundwater flow direction is to the north-west. In the east and northeast portion of the base, the inferred groundwater flow is to the north-east towards Rows Bay.

Item	Observations
	It is noted that groundwater elevation data collected from the Townsville Town Common and Cape Pallarenda was likely influenced by the pooled surface waters in the Townsville Town Common at the time of gauging. For this reason, groundwater elevation data from the Townsville Town Common and Cape Pallarenda was not considered when generating the groundwater contours.
Water Quality Parameters	<p>Groundwater quality parameters were measured at the time of sampling. The readings are presented in Table T2, Appendix B and are summarised below, covering all sampling completed:</p> <ul style="list-style-type: none"> • DO results ranged between 0.86 mg/L (MW140) to 7.45 mg/L (MW301) indicating poorly to well oxygenated conditions. • EC ranged from 10.4 µS/cm (MW301) to 133,650 µS/cm (MW203) indicating fresh to saline conditions. • pH ranged from 3.47 (MW206) to 8.18 (MW090). pH results generally indicated acidic to slightly alkaline conditions. • ORP ranged from -181 mV (MW211) to 238.6 mV (MW206) indicating moderately to strongly reducing conditions. • Temperature ranged from 26.3°C (MW470) to 33.4°C (MW216).

4.1.2 Groundwater Analytical Results

Of the 109 groundwater wells sampled during this event, 93 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3, Appendix B**. 22 of the 47 groundwater samples collected from off-site monitoring wells exceeded the drinking water guideline for PFOS+PFHxS.

Eight exceedances of the ecological guideline for PFOS were observed in off-Base wells (MW216, MW218, MW221, MW225, MW240, MW263, MW267 and MW301). A total of 48 on-Base samples exceeded the ecological guideline for PFOS, and one on-Base sample exceeded the ecological guideline for PFOA.

Historical groundwater results are presented in **Table T8, Appendix B**. There were no first-time detections of PFOS, PFOA or PFHxS in any samples during this sampling event.

There were no first-time exceedances of the human health or ecological guidelines during the sampling. Groundwater sampling results were generally within the same order of magnitude as historically reported concentrations.

4.2 Surface Water

4.2.1 Observations and Field Measurements

Table 12 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water locations were accessible during the sampling event.
Field Observations	<p>Surface water at SW110, SW114 and SW202 to SW207 had organic odours. Surface water at SW117 and SW131 had sulfurous odours.</p> <p>Surface water at SW131 had a slight biological sheen on the surface. High algal load was noted in surface water at SW119. Biological material was noted floating in the water at SW111.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations.</p> <p>Field observations are presented Table T4 in Appendix B.</p>

Item	Observations
Water Quality Parameters	<p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below:</p> <ul style="list-style-type: none"> • DO results ranged between 1.57 mg/L (SW013) and 13.16 (SW119) indicating moderately to well oxygenated conditions. • EC ranged from 186.8 $\mu\text{S}/\text{cm}$ (SW019) to 100,174 $\mu\text{S}/\text{cm}$ (SW108) fresh to saline conditions. • pH ranged from 6.56 (SW202) to 10.12 (SW119). pH results indicated near neutral to alkaline conditions. • ORP ranged from -60.9 mV (SW017) to 203.6 mV (SW202) indicating moderately to strongly reducing conditions. • Temperature ranged from 23.1°C (SW013) to 34.6°C (SW107).

4.2.2 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5, Appendix B**. PFAS was detected in 40 of the 42 samples collected. PFOS concentrations in 30 samples exceeded the adopted ecological guidelines for PFOS. No samples exceeded the ecological guideline for PFOA. Sum of PFOS+PFHxS concentrations in eight on-Base samples and seven off-Base samples exceeded the adopted recreational use guidelines (**Table T5, Appendix B**).

Historical surface water results are presented in **Table T9, Appendix B** and were all generally reported within the historical range of concentrations, except the following:

- SW102 which recorded a new historical maximum concentration of 1.7 $\mu\text{g}/\text{L}$, previously 1.19 $\mu\text{g}/\text{L}$;
- SW206 which recorded a new historical maximum concentration of 0.84 $\mu\text{g}/\text{L}$, previously 0.34 $\mu\text{g}/\text{L}$; and
- SW207 which recorded a new historical maximum concentration of 0.55 $\mu\text{g}/\text{L}$, previously 0.21 $\mu\text{g}/\text{L}$.

There were two first-time exceedances of the ecological guidelines for PFOS during the sampling event (SW203 and SW204) and no first-time exceedances of the human health guidelines. Refer **Figure 5, Appendix A** for the locations of SW203 and SW204.

Table 13 First-time exceedances of PFOS or PFOA in surface water

First time detection / exceedance	Surface water Sampling location	PFOS concentration ($\mu\text{g}/\text{L}$)		PFOA concentration ($\mu\text{g}/\text{L}$)	
		April 2022	Historical maximum	April 2022	Historical maximum
First time exceedances of PFOS, PFHxS+PFOS or PFOA in surface water	SW203	0.68	0.03	0.01	0.01
	SW204	0.24	0.04	<0.01	0.0007

Note: Yellow shading indicates a sample with a first-time exceedance above ecological guideline values (refer to 3.5).

4.3 Sediment

4.3.1 Observations and Field Measurements

Table 14 Sediment Observations

Item	Observations
Access	All sediment sampling locations were accessible.
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of sediment locations. Organic odours were detected at sample locations SD107, SD108, SD110, SD111, SD116, SD131 and SD201-SD208. Sulfurous odours were detected at sample locations SD117 and SD118. Sediment logging and observation data are presented in Table T6, Appendix B .

4.3.2 PFAS Sediment Analytical Results

Of the 42 sediment samples collected, 38 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results presented in **Table T10, Appendix B**. There were no first-time detections of PFOA or PFOS+PFHxS in sediment. Sediment sampling results were generally within the historical range of concentrations.

There are no endorsed human health or ecological guideline values available for sediment.

5.0 Summary and Next Sampling Event

5.1 Summary of Sampling Event

The routine OMP Wet Season Sampling Event was undertaken between 11 April and 5 May 2022 and included sampling from 109 groundwater monitoring locations and 42 co-located surface water and sediment monitoring locations.

Table 15 summarises the findings of the sampling event and the recommended actions.

Table 15 Summary of Sampling Event

Item	Comment	Recommended Actions
<u>Groundwater:</u> Access to sampling locations	Damage to monitoring well MW253 prevented sampling during this monitoring round.	Repairs to the monitoring well monument have been raised as an Early Warning Notice.
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 92 of the 109 groundwater samples, 40 of the 42 surface water samples and 38 of the 42 sediment samples analysed.	Ongoing monitoring in accordance with the OMP.
<u>First-time detections and exceedances of PFOS</u>	There were no first-time detections of PFOS, PFOA or PFHxS, and two (SW202 and SW203) first-time exceedances for PFOS of the 95% species protection ecological guidelines (HEPA, 2020). There were no first-time exceedances of the NHMRC (2019) recreational use guidelines or drinking water guidelines (for off-Base samples only).	Ongoing monitoring in accordance with the OMP.

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for October 2022.

5.3 Upcoming Annual Interpretive Report

The next annual interpretative report is scheduled for January 2023.

6.0 References

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Appendix A

Figures

Legend

- Management Area
- Sub-Management Area
- Monitoring Area

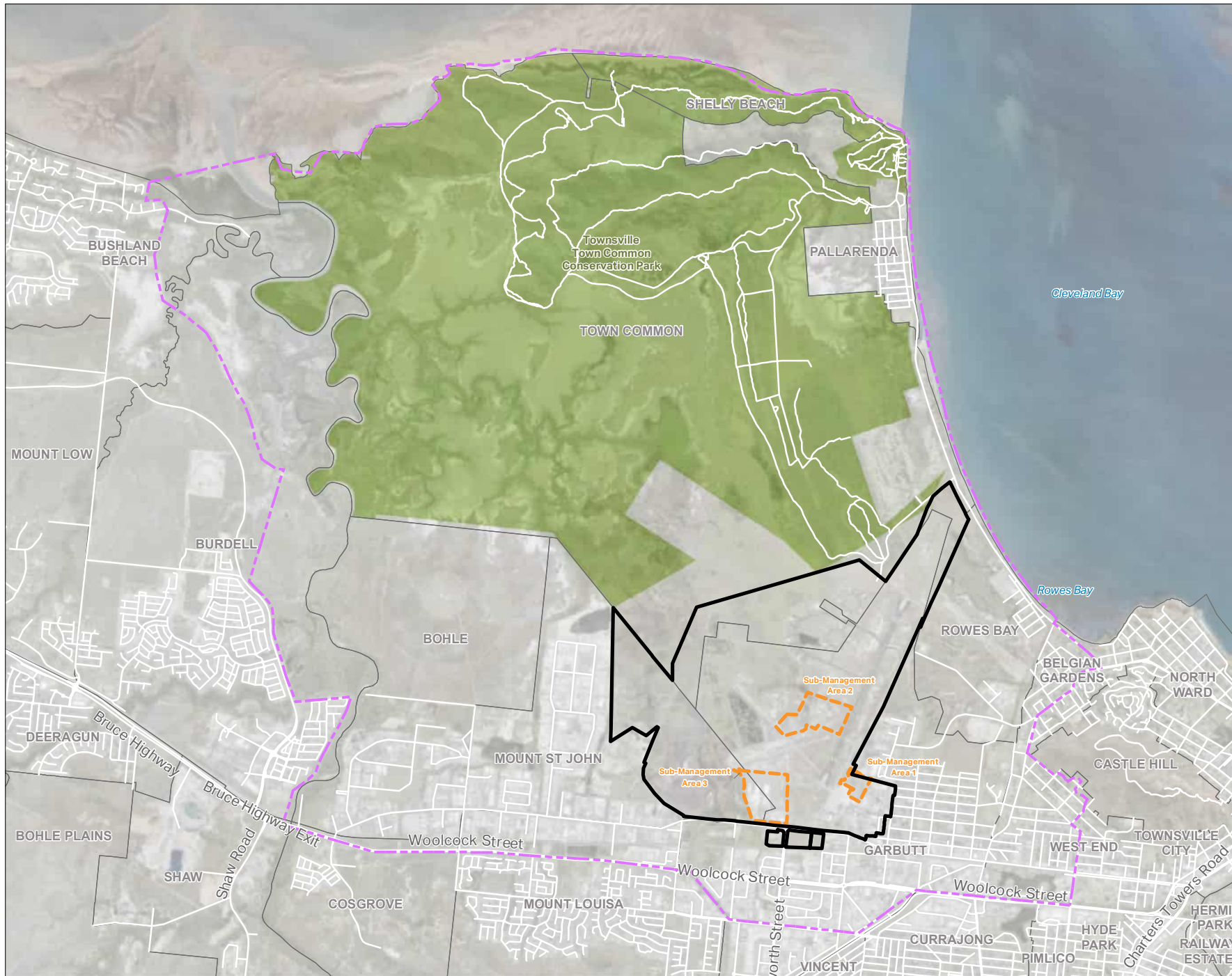


FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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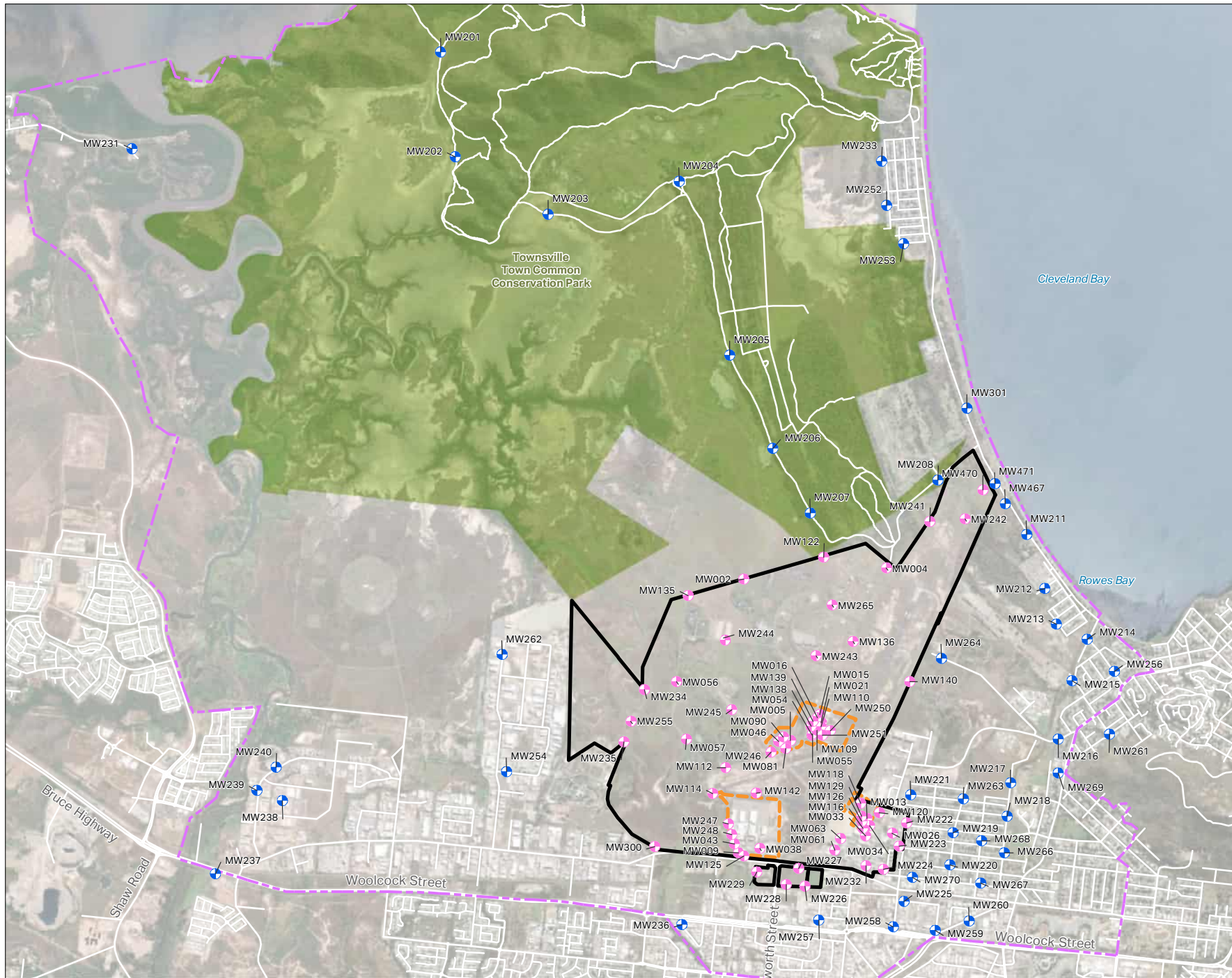
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
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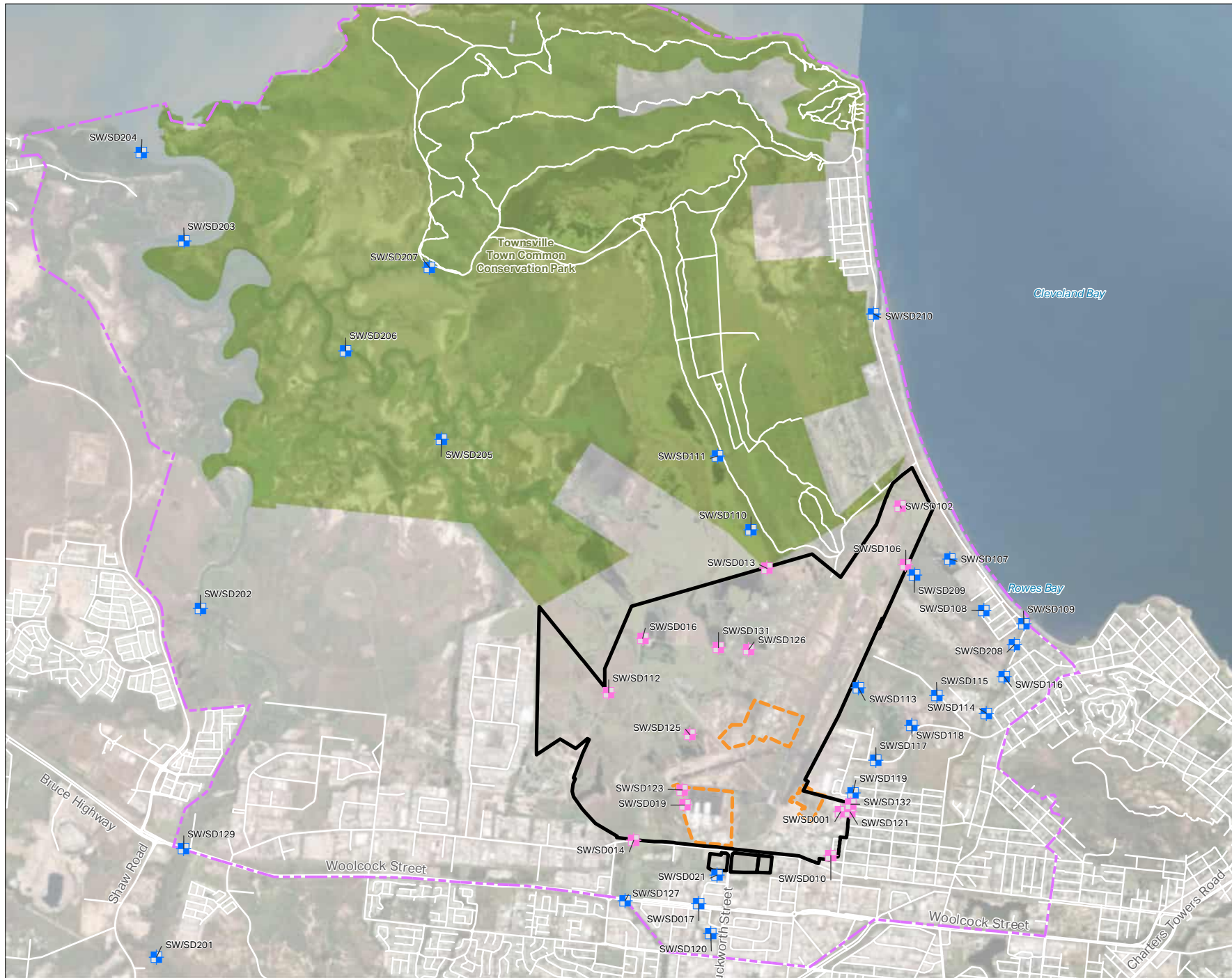
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Off-base Surface Water/Sediment Locations
- On-Base Surface Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2022
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Department of Defence
PROJECT NUMBER:
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Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction
- On-base Monitoring Well
- Off-base Monitoring Well
- Damaged
- MW255 Omitted from inferred contours due to anomalous gauging field measurement

Note: MW253 could not be gauged due to damage.

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS -
WET SEASON**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2022
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Legend

- Management Area
- Monitoring Area
- Sub-Management Area
- First time exceedance of screening criteria for PFOS

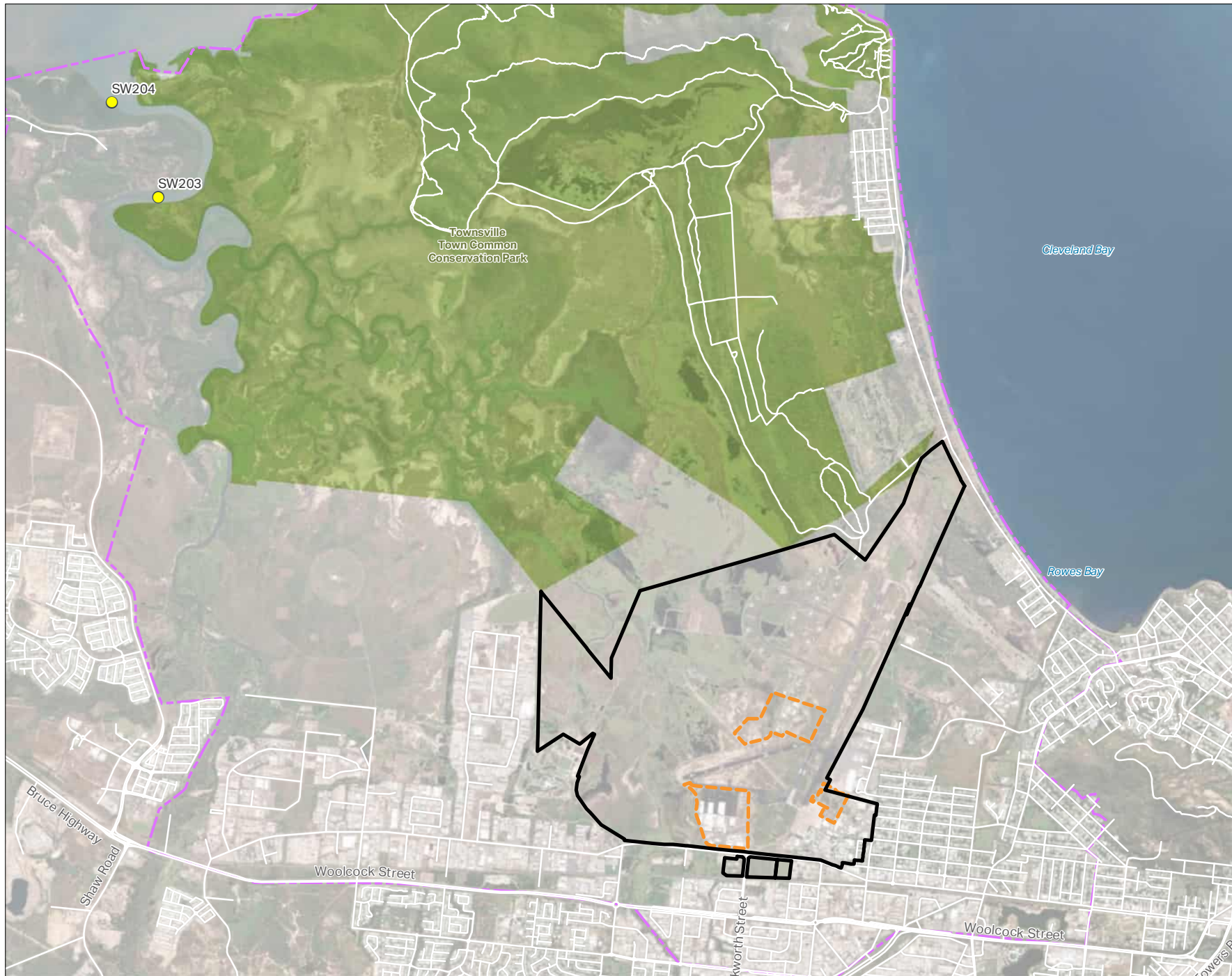


FIGURE 5: FIRST TIME EXCEEDANCES OF THE ECOLOGICAL GUIDELINES IN SURFACE WATER

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville, Sampling Event Factual Report, April and May 2022
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Appendix B

Analytical Tables

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)
0874	MW002	12/04/2022	10:52	4.66	0.646	1.866	1.220
0874	MW004	12/04/2022	10:44	5.21	1.774	3.181	1.407
0874	MW046	12/04/2022	11:20	4.42	1.036	2.844	1.808
0874	MW114	12/04/2022	10:20	5.18	1.284	3.325	2.041
0874	MW116	12/04/2022	10:08	4.22	1.710	5.254	3.544
0874	MW122	12/04/2022	10:48	6.38	1.400	2.451	1.051
0874	MW125	12/04/2022	12:39	9.80	1.821	4.617	2.796
0874	MW135	12/04/2022	10:55	5.90	1.442	2.275	0.833
0874	MW136	12/04/2022	11:42	5.77	1.149	2.823	1.674
0874	MW138	12/04/2022	11:30	5.98	0.994	2.903	1.909
0874	MW205	12/04/2022	12:04	4.97	1.905	3.239	1.334
0874	MW206	12/04/2022	12:05	4.40	1.865	3.211	1.346
0874	MW207	12/04/2022	12:06	6.27	2.645	3.825	1.180
0874	MW214	12/04/2022	10:42	4.90	2.648	3.663	1.015
0874	MW215	12/04/2022	10:30	6.55	2.535	3.269	0.734
0874	MW217	12/04/2022	10:10	5.78	1.260	3.271	2.011
0874	MW218	12/04/2022	10:00	5.23	2.020	2.908	0.888
0874	MW223	12/04/2022	09:48	4.70	1.301	5.337	4.036
0874	MW234	12/04/2022	12:25	7.57	1.973	3.216	1.243
0874	MW237	12/04/2022	12:30	6.52	2.643	4.134	1.491
0874	MW239	12/04/2022	12:31	6.16	2.918	6.508	3.590
0874	MW242	12/04/2022	10:34	4.80	1.693	3.081	1.388
0874	MW253	12/04/2022			Not gauged due to damage		
0874	MW255	12/04/2022	12:27	8.24	1.717	3.121	1.404
0874	MW267	12/04/2022	09:28	4.77	2.202	4.134	1.932
0874	MW300	12/04/2022	12:23	6.70	1.914	5.072	3.158
0874	MW301	12/04/2022	11:15	3.93	2.695	3.940	1.245

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

NR - Not Recorded

Table T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbal)	HydraSleeve Collar Depth (mbal)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen
Sub-Management Area One																			
0874	MW013	11/04/2022	NA	3.56	22/04/2022	4.87	1.505	1.140	-0.365	Good	1.45	10665	6.73	62.1	29.0	Clear	Clear	Rotten egg smell (sulfurous)	No sheen
0874	MW116	11/04/2022	1.5 - 4.5	2.97	21/04/2022	4.64	1.852	1.625	-0.227	Good	2.43	14963	6.56	66.8	30.6	Low	Light Yellow	No odour	No sheen
0874	MW118	11/04/2022	NA	3.30	20/04/2022	4.57	1.240	0.773	-0.467	Good	2.46	641	6.85	60.3	31.8	Low	Clear	Slight Organic Odour	No sheen
0874	MW126	11/04/2022	3 - 6	4.63	22/04/2022	5.67	1.229	1.093	-0.136	Good	5.85	86	6.57	165.5	26.9	Low	Light Yellow	No odour	No sheen
0874	MW129	11/04/2022	3 - 6	4.63	20/04/2022	5.91	1.365	0.738	-0.627	Good	5.98	1349	6.61	30.8	28.6	Low	Clear	Slight Organic Odour	No sheen
Sub-Management Area Two																			
0874	MW005	13/04/2022	NA	6.16	20/04/2022	5.72	2.015	1.610	-0.405	Good	4.77	64130	6.64	-16.1	26.8	Clear	Clear	Other	No sheen
0874	MW015	13/04/2022	NA	2.10	21/04/2022	3.40	1.312	1.191	-0.121	Good	3.07	19492	6.69	-45.3	29.6	Low	Light Brown	No odour	No sheen
0874	MW016	13/04/2022	NA	2.25	21/04/2022	3.55	1.266	1.176	-0.090	Good	1.87	16582	6.50	-84.8	31.3	Clear	Clear	No odour	No sheen
0874	MW021	13/04/2022	NA	1.95	21/04/2022	3.25	1.249	0.995	-0.254	Good	2.26	11282	6.87	-81.2	31.6	Clear	Clear	No odour	No sheen
0874	MW046	13/04/2022	NA	3.12	20/04/2022	4.42	1.048	0.301	-0.747	Good	1.57	8789	7.54	102.4	28.1	Clear	Clear	No odour	No sheen
0874	MW054	13/04/2022	NA	4.32	21/04/2022	5.62	1.459	1.094	-0.365	Good	2.99	4026	7.87	-128.4	30.3	Low	Light Brown	No odour	No sheen
0874	MW055	13/04/2022	NA	3.61	21/04/2022	4.92	1.476	1.113	-0.408	Good	2.23	4812	7.37	-138.5	29.9	Clear	Clear	No odour	No sheen
0874	MW081	13/04/2022	NA	3.77	20/04/2022	4.95	1.176	0.622	-0.554	Good	4.61	17098	6.91	-50.7	27.3	Medium	Yellow / Brown	No odour	No sheen
0874	MW090	13/04/2022	NA	1.65	20/04/2022	2.88	0.752	0.565	-0.187	Good	4.42	1417	8.18	-78.8	27.6	Low	Light Yellow	No odour	No sheen
0874	MW109	13/04/2022	NA	4.53	21/04/2022	5.84	1.491	1.032	-0.459	Good	2.23	27654	6.74	-91.4	27.8	Clear	Clear	No odour	No sheen
0874	MW110	13/04/2022	NA	3.59	21/04/2022	4.68	0.994	0.576	-0.418	Good	1.22	44496	6.39	-132.2	29.8	Low	Light Brown	No odour	No sheen
0874	MW138	13/04/2022	3 - 6	4.69	21/04/2022	5.98	1.007	0.549	-0.458	Good	1.44	19047	6.78	-158.8	30.3	Low	Light Grey	Rotten egg smell (sulfurous)	No sheen
0874	MW139	13/04/2022	3 - 6	4.72	21/04/2022	5.99	1.072	0.403	-0.403	Good	1.76	42811	6.59	-131.4	30.9	Clear	Clear	No odour	No sheen
0874	MW246	11/04/2022	1 - 7	6.07	12/04/2022	7.16	1.574	1.149	-0.425	Good	1.46	43600	6.19	85.5	30.6	Low	Light Brown	No odour	No sheen
0874	MW250	11/04/2022	1 - 6	3.90	20/04/2022	5.02	2.074	1.691	-0.383	Good	1.06	56942	6.03	45.2	30.4	Low	Clear	No odour	No sheen
0874	MW251	11/04/2022	0.7 - 6.7	5.82	20/04/2022	7.60	1.540	0.953	-0.587	Good	1.06	56942	6.03	45.2	30.4	Low	Clear	No odour	No sheen
Sub-Management Area Three																			
0874	MW009	11/04/2022	NA	3.38	13/04/2022	4.64	1.013	0.821	-0.192	Good	1.75	27941	6.56	54.3	31.0	Clear	Clear	No odour	No sheen
0874	MW038	11/04/2022	NA	3.33	21/04/2022	5.63	0.772	0.526	-0.246	Good	2.33	2231	7.85	-26.0	31.8	Low	Clear	No odour	No sheen
0874	MW043	11/04/2022	NA	4.48	13/04/2022	5.73	1.094	0.284	-0.284	Good	1.56	23735	6.91	-49.5	30.2	Clear	Clear	No odour	No sheen
0874	MW114	11/04/2022	NA	3.90	12/04/2022	5.17	1.284	1.006	-0.278	Good	1.68	2532	6.85	-6.0	29.7	Low	Yellow / Brown	No odour	No sheen
0874	MW125	13/04/2022	5 - 11	8.62	20/04/2022	9.72	1.825	1.586	-0.239	Good	3.57	83724	6.73	-41.6	26.6	Low	Light Brown	No odour	No sheen
0874	MW142	11/04/2022	3 - 6	4.80	20/04/2022	6.11	1.040	0.815	-0.225	Good	1.06	56942	6.03	45.2	30.4	Low	Clear	No odour	No sheen
0874	MW247	11/04/2022	0.8 - 3.5	2.84	21/04/2022	4.14	1.585	0.951	-0.634	Good	2.01	891	6.57	52.4	28.4	Medium	Light Grey	No odour	No sheen
0874	MW248	13/04/2022	1 - 4	2.51	21/04/2022	3.61	1.458	1.192	-0.266	Good	2.66	15871	7.01	29.9	28.4	Low	Light Yellow	No odour	No sheen
On-Base																			
0874	MW002	11/04/2022	NA	3.37	13/04/2022	4.68	0.646	1.866	1.220	Good	2.43	2504	6.84	-64.7	28.8	Low	Yellow / Brown	No odour	No sheen
0874	MW004	11/04/2022	NA	3.94	13/04/2022	5.23	1.774	3.181	1.407	Good	2.33	1330	7.36	45.1	29.8	Medium	Light Brown	No odour	No sheen
0874	MW026	11/04/2022	NA	3.56	21/04/2022	4.89	1.644	5.164	3.520	Good	3.57	1805	7.89	35.1	32.7	Medium	Light Yellow	No odour	No sheen
0874	MW033	11/04/2022	NA	2.65	21/04/2022	3.93	2.308	5.860	3.552	Good	7.20	1455	7.67	9.5	31.2	Medium	Light Yellow	No odour	No sheen
0874	MW034	11/04/2022	NA	2.55	21/04/2022	3.85	1.944	5.434	3.490	Good	2.93	20155	6.62	82.3	32.9	Turbid	Light Yellow	No odour	No sheen
0874	MW059	11/04/2022	NA	4.16	13/04/2022	5.45	1.554	2.955	1.401	Good	2.45	26437	6.66	46.1	27.8	Clear	Clear	No odour	No sheen
0874	MW057	11/04/2022	NA	4.98	13/04/2022	6.27	1.642	3.114	1.472	Good	2.06	46654	6.44	92.1	28.4	Clear	Clear	No odour	No sheen
0874	MW061	11/04/2022	NA	4.18	22/04/2022	5.47	1.220	4.668	3.448	Good	1.60	2081	7.62	-28.3	31.8	Clear	Clear	No odour	No sheen
0874	MW063	11/04/2022	NA	4.01	21/04/2022	5.32	1.138	4.852	3.714	Good	2.59	9608	6.97	40.6	31.1	Low	Clear	No odour	No sheen
0874	MW112	11/04/2022	NA	4.10	12/04/2022	5.40	1.423	3.300	1.877	Good	2.46	13553	6.04	24.8	30.2	Low	Light Brown	No odour	No sheen
0874	MW120	11/04/2022	NA	4.54	21/04/2022	5.83	1.265	4.549	3.284	Good	2.44	11707	6.86	80.9	32.3	Medium	Clear	No odour	No sheen
0874	MW123	11/04/2022	1.5 - 4.5	5.13	13/04/2022	6.38	1.429	2.451	1.051	Good	1.96	2347	6.08	79.9	29.7	Clear	Clear	No odour	No sheen
0874	MW135	11/04/2022	1.5 - 4.5	4.59	13/04/2022	5.68	1.442	2.275	0.833	Good	1.75	47668	6.18	-58.7	29.8	Low	Light Brown	No odour	No sheen
0874	MW136	11/04/2022	NA	4.55	13/04/2022	5.78	1.149	2.823	1.674	Good	1.86	1084	7.11	159.3	29.6	Medium	Light Brown	No odour	No sheen
0874	MW140	11/04/2022	NA	9.88	20/04/2022	12.33	1.268	2.728	1.460	Good	0.86	629	5.74	122.5	28.2	Low	Clear	Slight Organic Odour	No sheen
0874	MW222	11/04/2022	1.2 - 8	6.55	20/04/2022	NR	1.05	4.568	3.523	Good	3.45	11254	6.75	-15.3	27.2	Medium	Light Brown	No odour	No sheen
0874	MW223	11/04/2022	1.5 - 4.5	3.44	12/04/2022	4.78	1.391	5.337	4.036	Good	2.47	2836	7.42	103.2	30.8	Low	Light Brown	No odour	No sheen
0874	MW224	11/04/2022	2.2 - 9.2	6.66	20/04/2022	7.97	1.938	5.901	3.523	Good	2.97	19359	6.60	104.6	29.1	Medium	Light Brown	No odour	No sheen
0874	MW226	11/04/2022	1.5 - 6.5	5.42	12/04/2022	6.87	1.345	5.172	3.827	Good	2.08	11277	6.58	-97.1	28.5	Medium	Light Brown	Rotten egg smell (sulfurous)	No sheen
0874	MW227	11/04/2022	1 - 8	6.60	12/04/2022	7.88	1.284	4.693	3.409	Good	1.92	21831	6.51	-68.4	28.5	Low	Light Brown	No odour	No sheen
0874	MW228	11/04/2022	NR	NR	12/04/2022	7.95	1.462	4.944	3.482	Good	3.09	23874	6.54	72.6	27.9	Medium	Light Brown	No odour	No sheen
0874	MW229	11/04/2022	1 - 9.7	8.63	12/04/2022	10.06	2.146	5.387	3.241	Good	2.06	31949	6.09	-30.9	29.9	Medium	Light Brown	No odour	No sheen
0874	MW232	11/04/2022	1 - 6	3.64	22/04/2022	4.85	1.698	5.767	4.069	Good	1.61	2533	7.37	86.0	28.4	Low	Yellow / Brown	No odour	No sheen
0874	MW234	12/04/2022	1 - 8	6.42	14/04/2022	7.35	1.985	3.216	1.231	Good	4.83	731	6.86	146.5	26.9	Medium	Light Grey	No odour	No sheen
0874	MW235	12/04/2022	NR	NR	14/04/2022	6.64	1.918	3.980	1.462	Good	4.32	12624	7.18	81.7	30.5	Clear	Clear	No odour	No sheen
0874	MW241	11/04/2022	1 - 4	3.38	13/04/2022	4.68	1.918	3.114	1.196	Good	1.97	22590	6.98	16.5	30.1	Low	Grey	No odour	No sheen
0874	MW242	11/04/2022	1 - 4	3.51	13/04/2022	4.82	1.683	3.081	1.388	Good	1.85	8837	7.22	-18.0	31.1	Clear	Clear	No odour	No sheen
0874	MW243	11/04/2022	1 - 7	6.35	12/04/2022	7.61	1.619	3.126	1.507	Good	1.88	66446							

Property ID	Sample ID	Field ID	Sample Date	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base													
Bohle/Louisa Creek/Town Common													
0874	SW013	0874_SW112_220422	22/04/2022	1.57	457.7	7.37	134.8	23.1	Clear	Pale yellow	No odour	No sheen	Standing water body in vegetated area, approx. 15 cm deep, 40 cm wide. Grass underneath puddle.
0874	SW014	0874_SW014_220413	13/04/2022	1.72	3691	8.55	57.3	27.1	Low	Pale yellow	No odour	No sheen	Still water, 2 m wide earthen creek under bridge
0874	SW016	0874_SW016_220413	13/04/2022	6.6	2306	8.97	66.4	27.9	Medium	Pale yellow	No odour	No sheen	
0874	SW019	0874_SW019_220410	10/04/2022	6.66	186.8	7.02	51.2	28.2	Low	Pale yellow	No odour	No sheen	
0874	SW112	0874_SW112_220412	12/04/2022	5.31	1410	6.86	132.3	31.7	Medium	Pale yellow	No odour	No sheen	Stagnant 5 m wide earthen creek
0874	SW123	0874_SW123_220410	10/04/2022	5.42	514	6.98	95.4	27.4	Low	Pale yellow	No odour	No sheen	
0874	SW125	0874_SW125_220413	13/04/2022	5.08	6746	8.75	94.3	31	Low	Yellow	No odour	No sheen	Still water body approx. 5 m wide
0874	SW126	0874_SW126_220410	10/04/2022	7.78	588	7.63	113.7	29.1	Medium	Pale yellow	No odour	No sheen	Lake fringed by reeds, no flow.
0874	SW131	0874_SW131_220410	10/04/2022	2.33	1449	7.11	35.5	25.5	Low	Pale yellow	Sulforus odour	Biosheen	Drain to standing water, no flow, reeds at bank and throughout water body.
Mundy Creek Catchment													
0874	SW001	0874_SW001_220413	13/04/2022	7.83	1863	9.5	51.1	29.8	Medium	Pale yellow	No odour	No sheen	Windy, water moving in 0.5 m wide channel in concrete culvert.
0874	SW010	0874_SW010_220413	13/04/2022	10.82	1546	8.74	71.4	30	Low	Yellow	No odour	No sheen	Still water in 2 m wide concrete culvert
0874	SW106	0874_SW106_220413	13/04/2022	5.68	96823	6.88	119.8	33.3	Medium	Pale yellow	No odour	No sheen	Still water
0874	SW121	0874_SW121_220410	10/04/2022	2.39	383.8	7.58	50.8	28.2	Low	Light olive brown	No odour	No sheen	
0874	SW132	0874_SW132_220413	13/04/2022	8.63	2578	9.53	65.8	27.9	Medium	Pale yellow	No odour	No sheen	Windy, water 1 m wide in concrete culvert
Three Mile Creek													
0874	SW102	0874_SW102_220413	13/04/2022	1.87	14825	8.07	118.6	28.5	Medium	Pale yellow	No odour	No sheen	Still 1 m wide water in earthen culvert
Off-Base													
Bohle/Louisa Creek/Town Common													
0874	SW017	0874_SW017_220411	11/04/2022	2.03	2451	7.25	-60.9	29.8	Low	Pale yellow	No odour	No sheen	Still, earthen 1 m wide creek.
0874	SW021	0874_SW021_220411	11/04/2022	9.95	1488	7.08	156.3	32.5	Low	Pale yellow	No odour	No sheen	1 m wide earthen creek culvert.
0874	SW110	0874_SW110_220412	12/04/2022	2.48	2317	7.85	95.6	30.2	Medium	Yellowish brown	Organic Odour	No sheen	Marsh area.
0874	SW111	0874_SW111_220412	12/04/2022	4.81	1043	7.66	105.8	29.9	Medium	Pale yellow	No odour	No sheen	Biological material floating in water.
0874	SW120	0874_SW120_220411	11/04/2022	3.75	3638	7.52	70	30.1	Low	Pale yellow	No odour	No sheen	Still, 1 m wide earthen creek.
0874	SW127	0874_SW127_220411	11/04/2022	2.78	795	7.8	91.3	27.8	Low	Pale yellow	No odour	No sheen	3 m wide concrete culvert, still water.
0874	SW129	0874_SW129_220411	11/04/2022	7.12	19077	7.62	124.2	32.9	Low	Pale yellow	No odour	No sheen	Bohle River, slow flowing 10 m wide.
0874	SW201	0874_SW201_220411	11/04/2022	7.54	5170	8.01	110.7	30.8	Low	Pale yellow	No odour	No sheen	10 m wide slow flowing river.
0874	SW202	0874_SW202_220405	4/05/2022	7.6	7751	6.56	203.6	25	Low	Pale yellow	Slight Organic Odour	No sheen	Approx 1.8 m deep. Bohle River, approx 20m wide
0874	SW203	0874_SW203_220405	4/05/2022	6.29	30789	7.44	128.7	26.8	Low	Pale yellow	Slight Organic Odour	No sheen	Bohle River approx 30 m wide
0874	SW204	0874_SW204_220505	5/05/2022	6.25	35786	8.51	112.7	28.4	Clear	Pale yellow	Slight Organic Odour	No sheen	Bohle River mouth approx 40-50 m wide
0874	SW205	0874_SW205_220404	4/05/2022	3.77	2754	7	140.5	25.6	Clear	Pale yellow	Slight Organic Odour	No sheen	approx 1.8 m deep, Bohle River, approx 10-15 m wide.
0874	SW206	0874_SW206_220404	4/05/2022	4.89	9229	7.02	116.5	29.4	Low	Pale yellow	Slight Organic Odour	No sheen	Bohle River approx 20 m wide
0874	SW207	0874_SW207_220404	4/05/2022	5.85	16789	7.2	128.5	28	Low	Pale yellow	Slight Organic Odour	No sheen	Bohle River, approx 15-20 m wide
Mundy Creek Catchment													
0874	SW108	0874_SW108_220412	12/04/2022	6.95	100,174	9.13	87.4	34.5	Medium	Pale yellow	No odour	No sheen	Still water body, over 10 m wide
0874	SW109	0874_SW109_220412	12/04/2022	5.26	53110	8.74	94	30	Low	Pale yellow	No odour	No sheen	Low tide in channel
0874	SW113	0874_SW113_220412	12/04/2022	4.61	2123	8.93	65.6	28.1	Low	Yellow	No odour	No sheen	3 m wide still water creek
0874	SW114	0874_SW114_220411	11/04/2022	10.12	2931	7.95	25.5	30.9	Low	Pale yellow	Organic Odour	No sheen	Stagnant shallow water, overgrown area.
0874	SW115	0874_SW115_220412	12/04/2022	6.05	33079	8.4	97.8	31.6	Medium	Pale yellow	No odour	No sheen	4m wide earthen channel under bridge
0874	SW116	0874_SW116_220412	12/04/2022	4.21	48331	8.16	107.7	29.7	Low	Pale yellow	No odour	No sheen	Still 3 m wide concrete culvert near bridge
0874	SW117	0874_SW117_220411	11/04/2022	2.34	1769	8.26	100.6	29.4	Low	Pale yellow	Sulforus odour	No sheen	Slightly sulfurous odour, 1 m wide earthen culvert, overgrown, stagnant water.
0874	SW118	0874_SW118_220411	11/04/2022	11.42	4112	8.27	107.6	31.7	Low	Pale yellow	No odour	No sheen	Stagnant, 3 m wide earthen creek.
0874	SW119	0874_SW119_2220411	11/04/2022	13.16	2676	10.12	2.7	34.4	Low	Pale yellow	No odour	No sheen	3 m concrete culvert, stagnant water with biologicals
0874	SW208	0874_SW208_220412	12/04/2022	4.74	50545	8.33	123.7	29.6	Medium	Pale yellow	No odour	No sheen	Mangroves present
0874	SW209	0874_SW209_220413	13/04/2022	4.37	93427	7.82	93.4	32.5	Medium	Yellow	No odour	No sheen	Large > 5 m wide still water body
Three Mile Creek													
0874	SW107	0874_SW107_220412	12/04/2022	6.09	34028	8.22	111.4	34.6	Medium	Yellow	No odour	No sheen	Very yellow water, still marsh
0874	SW210	0874_SW210_220412	12/04/2022	2.88	32941	7.46	124.1	30.4	Medium	Light olive brown	No odour	No sheen	Moderately fast flowing > 3 m wide.

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celcius
 "-" denotes no data collected

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle/Louisa Creek/Town Common				
0874	SD013	13/04/2022	Sandy LOAM. Some fine gravels, minor silt, some organic content (plant material). No surface water present at time of sample collection.	No odour
0874	SD014	13/04/2022	Sandy SILT. Dark red, minor organic content. Sampled from still, deep water beneath the bridge.	No odour
0874	SD016	13/04/2022	Gravelly SAND. Poorly graded, dark brown, some biota and other plant material. Sampled from still water.	No odour
0874	SD019	21/04/2022	SAND. Fine grained, black, high organic content (biota, grass and roots). Sampled from very slowly flowing water.	No odour
0874	SD112	12/04/2022	Sandy SILT. Low plasticity, high organic content (rootlets).	No odour
0874	SD123	21/04/2022	Sandy CLAY. Surface gravel, poor plasticity. Sampled from stagnant pond.	No odour
0874	SD125	13/04/2022	Silty CLAY. Medium plasticity, minor organic material (plant material). Sampled from still water.	No odour
0874	SD126	13/04/2022	Silty CLAY. Low plasticity, brown, high organic content (rootlets). Sampled from lake.	No odour
0874	SD131	13/04/2022	Clayey SILT. Medium plasticity, dark grey, high organic content (plant material). Sampled from still water.	Organic odour
Mundy Creek Catchment				
0874	SD001	13/04/2022	Sandy GRAVEL. Medium-coarse, poorly graded, reddish brown colour. Sampled from slowly flowing water in concrete culvert.	No odour
0874	SD010	13/04/2022	Silty SAND. Well graded, black, high organic content. Sampled from stagnant water at end of culvert.	No odour
0874	SD106	13/04/2022	Silty CLAY. Medium plasticity, dark brown, high organic material (plant material). Sampled from shallow flowing water.	No odour
0874	SD121	13/04/2022	Sandy LOAM. Low plasticity, black. Some organic material (rootlets).	No odour
0874	SD132	13/04/2022	SAND. Medium-coarse, poorly graded, minor silt content, reddish brown to black, minor organic content. Sampled from slowly flowing water in concrete culvert.	No odour
Three Mile Creek				
0874	SD102	13/04/2022	Clayey SILT. Medium plasticity, brown-black, trace organic content (plant material). Sampled from flowing concrete culvert.	No odour
Off-Base				
Bohle/Louisa Creek/Town Common				
0874	SD017	11/04/2022	Silty GRAVEL. Black, angular gravels, very stiff matrix, high organic component (grass). Sampled from marshy creek.	No odour
0874	SD021	11/04/2022	Sandy GRAVEL. Grey, sub-angular, high organic component (grass). Sampled from earthen drain.	No odour
0874	SD110	12/04/2022	Sandy SILT. Black, well graded, low plasticity, high organic matter content.	Organic odour
0874	SD111	13/04/2022	Sandy SILT. Brown, well graded, low plasticity, high organic matter content. Stagnant water present.	Organic odour
0874	SD120	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, black with light brown mottle, some organic content (rootlets). Sampled from earthen drain.	No odour
0874	SD127	11/04/2022	Silty GRAVEL. Large angular rock fragments, very stiff, dark brown, some organic content (rootlets). Sampled from concrete culvert.	No odour
0874	SD129	11/04/2022	Sandy GRAVEL. Sub-angular pebbles. Sampled from Bohle River.	No odour
0874	SD201	11/04/2022	Silty SAND. Black with grey mottles.	Organic odour
0874	SD202	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
0874	SD203	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
0874	SD204	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
0874	SD205	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
0874	SD206	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
0874	SD207	5/05/2022	Silty CLAY. Low to medium plasticity, dark brown, soft, trace of fine sands.	Coastal/mangrove mud odour
Mundy Creek Catchment				
0874	SD108	17/04/2022	CLAY. High plasticity, brown colour, some minor coarse fragments. Sampled from ponded water in creek.	Organic odour
0874	SD109	17/04/2022	SAND. Coarse, well graded, trace organics. Sampled from creek, under bridge.	No odour
0874	SD113	17/04/2022	SAND. Medium-coarse, poorly graded, black, high organic content (plant material). Sampled from still pond covered in lillies.	No odour
0874	SD114	11/04/2022	Silty CLAY. Dark brown, medium plasticity, minor organic content (plant material). Sampled from creek.	No odour
0874	SD115	17/04/2022	Sandy SILT. Dark brown colour. Minor organic material (roots). Sampled from earthen creek.	No odour
0874	SD116	17/04/2022	Sandy SILT. Medium plasticity, dark brown, some organic content (roots, leaves). Sampled from turbid water beneath bridge.	Organic odour
0874	SD117	11/04/2022	Silty SAND. Dark brown, low cohesion, sub-angular grains. Some organic matter present (leaves and roots). Sampled from concrete culvert.	Slight sulfurous odour
0874	SD118	11/04/2022	Silty SAND. Dark grey-brown, moderately cohesive. Sampled from shallow creek.	Sulfurous odour
0874	SD119	11/04/2022	Sandy GRAVEL. Sub-angular, some organic content (algae). Sampled from concrete culvert.	No odour
0874	SD208	12/04/2022	Sandy CLAY. Brown, high plasticity, minor organic content	Organic odour
0874	SD209	13/04/2022	Silty CLAY. Medium plasticity, dark grey/brown colour, high organic content (plant material). Sampled from slow flowing creek.	No odour
Three Mile Creek				
0874	SD107	12/04/2022	Sandy SILT. Medium plasticity, well graded, brown, high organic content (leaves).	Organic odour
0874	SD210	12/04/2022	Clayey SILT. Medium plasticity, well graded dark grey-brown, high organic content.	No odour

"-" denotes that no notes were observed for this sample

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	

Location ID	Sample ID	Sampled Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFDA	Sum of PFOS and PFHxS	Sum of PFAS				
On-Base																																				
Bohle/Louisa Creek/Town Common																																				
SD013	0874 SD013 220412	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	0.0006	<0.0002	<0.0002	<0.0002	0.001	0.0014	0.0093	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0594	0.0006	0.0687	0.0741			
SD014	0874 SD014 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004			
SD016	0874 SD016 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262			
SD019	0874 SD019 220421	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262		
SD112	0874 SD112 220421	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0028	0.0028			
SD123	0874 SD123 220421	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	0.0039	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	0.0086	<0.0005	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.142	0.0006	0.151	0.158			
SD125	0874 SD125 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	0.0069	<0.0002	<0.0002	<0.0002	<0.0002	0.0031	0.0034	0.0038	<0.0005	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	0.327	0.0013	0.365	0.382			
SD126	0874 SD126 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.007	0.0004	<0.0002	0.0002	0.0022	0.0023	0.018	0.0004	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.151	0.0017	0.169	0.186			
SD131	0874 SD131 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0008	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0327	<0.0002	0.0342	0.0352			
Mundy Creek Catchment																																				
SD001	0874 SD001 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0012	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0185	0.0006	0.0217	0.025			
SD010	0874 SD010 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.006	<0.0002	0.0062	0.0062			
SD106	0874 SD106 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262			
SD121	0874 SD121 220421	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0049	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0415	<0.0002	0.0464	0.0482			
SD132	0874 SD132 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0015	0.0048	0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.025	0.0008	0.0298	0.0343			
Three Mile Creek																																				
SD102	0874 SD102 220413	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0048	<0.001	0.0003	<0.0002	<0.0002	0.0004	0.0017	0.0055	0.0311	0.0008	0.0035	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.129	0.003	0.16	0.18			
Off-Base																																				
Bohle/Louisa Creek/Town Common																																				
SD017	0874 SD017 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004		
SD021	0874 SD021 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005		
SD110	0874 SD110 220412	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0009	0.0022	0.0125	<0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0394	0.0008	0.0519	0.0578			
SD111	0874 SD111 220412	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	0.0014	0.0147	<0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0824	0.001	0.0971	0.102			
SD120	0874 SD120 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD127	0874 SD127 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004			
SD129	0874 SD129 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
SD201	0874 SD201 220411	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005																							

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														
PFAS NEMP 2020 Drinking Water																														
																											0.13	220		
																													0.56	0.07

Location ID Sample Date

Sub-Management Area One																															
MW013	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376
	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	248	16.2	321	474
	22/04/2022	<0.5	4.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.8	10.6	<0.5	<0.5	<0.5	12.2	11.2	66.9	83	13.7	20.6	<1.25	<0.5	<0.5	<0.5	305	19.6	388	568
MW116	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214	408
	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109
	11/09/2020	<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	72.5	7.3	115	187
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	7.83	2.7	<0.02	<0.02	<0.02	2.52	1.31	15.1	22.9	3.32	6.74	<0.06	<0.02	<0.02	<0.02	18.7	3.58	41.6	84.7
MW118	27/07/2017	<0.05	0.25	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98
	28/07/2017	<0.05	0.24	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53
	17/08/2017	<0.05	0.28	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	0.232	0.02	0.454	0.926
	2/05/2019	0.001	0.888	0.081	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001	0.584	0.076	0.0044	0.001	<0.0005	0.397	0.198	1.09	2.34	0.47	0.421	<0.0005	<0.0005	<0.0005	0.0527	9.15	0.609	11.5	16.4
	15/10/2019	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05																							

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Sub-Management Area Two																															
Location ID	Sample Date																														
MW129	17/08/2017	<0.05	1.31	0.19	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	1.41	1.1	0.04	0.11	<0.02	0.85	0.73	3.73	7.39	2.27	1.24	<0.05	<0.02	<0.02	0.11	34.4	2.82	41.8	57.9
	17/04/2018	<0.05	1.11	0.87	<0.05	<0.05	<0.02	<0.05	0.38	<0.05	<0.02	<0.05	1.2	2	0.09	1.06	<0.02	0.74	0.6	2.82	6.22	2.74	0.93	<0.05	<0.02	0.02	0.16	45.8	2.05	52	68.8
	18/12/2018	0.02	6.92	0.666	0.038	<0.050	<0.0200	<0.050	0.184	<0.050	<0.0200	<0.050	4.12	0.54	0.094	0.438	<0.0200	2.35	2.06	10.3	18.3	3.9	3.54	<0.0500	<0.0200	0.032	0.164	56.1	5.05	74.4	115
	15/10/2019	<0.05	8.92	0.09	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	6.34	3.9	0.03	0.14	<0.02	3.64	1.16	19.8	24.8	7.04	4.67	<0.05	<0.02	<0.02	0.14	24.9	4.93	49.7	111
	29/04/2020	<0.05	3.01	0.2	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.04	2.1	<0.05	<0.05	<0.12	2.82	1.59	8.86	22.4	3.84	3.52	<0.12	<0.05	<0.05	0.16	35.3	4.61	57.7	91.4
	10/09/2020	<0.07	3.76	0.19	<0.07	<0.18	<0.07	<0.18	0.17	<0.18	<0.07	<0.18	2.75	2	<0.07	<0.07	<0.07	1.74	1.09	6.8	13.6	3.73	2.21	<0.18	<0.07	<0.07	0.14	30.4	4.15	44	72.7
	21/04/2021	<0.07	10.1	1.39	0.12	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	2.69	6.9	0.1	<0.07	<0.07	0.78	0.28	5.87	3.6	10.3	1.11	<0.19	<0.07	<0.07	0.15	12.6	0.97	16.2	57
	11/10/2021	0.09	14.1	0.28	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	3.32	4.6	0.06	<0.05	<0.05	1.97	1.01	9.5	13.7	8.08	2.62	<0.12	<0.05	<0.05	0.21	27.3	3.45	41	90.4
	20/04/2022	0.08	9.32	0.58	<0.05	<0.12	<0.05	<0.12	0.08	<0.12	<0.05	<0.12	2.13	5.7	0.09	<0.05	<0.05	0.79	0.63	4.86	5.45	7.03	1.32	<0.12	<0.05	<0.05	0.13	22.9	1.68	28.4	62.8
MW005	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	22.3	6.1	<0.05	<0.05	<0.05	9.5	26.4	92.1	388	5.53	31.6	<0.12	<0.05	<0.05	<0.05	234	14.6	622	830
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	16.4	5	<0.10	<0.10	<0.10	5.21	14.9	54.9	270	8.92	20.1	<0.25	<0.10	<0.10	<0.10	135	7.41	405	538
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	18.8	1.88	<0.0200	0.028	<0.0200	8.51	16.4	73.9	298	12	20.8	<0.0500	<0.0200	<0.0200	0.09	148	14.6	446	613
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	29.1	<2.5	<0.50	<0.50	<0.50	11.8	35.8	112	590	7.3	33	<1.25	<0.50	<0.50	<0.50	494	19.6	1,080	1,330
	16/10/2019	<0.10	0.42	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	33.8	5	<0.10	<0.10	<0.10	12	27.7	116	590	21.7	32.3	<0.25	<0.10	<0.10	0.13	260	18.9	850	1,120
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	19.9	<5.3	<0.50	<0.50	<0.50	8.7	18.4	76.2	372	12.4	24.8	<1.25	<0.50	<0.50	<0.50	232	12.5	604	777
	7/09/2020	<0.49	<0.49	<0.49	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	22.3	9	<0.49	<0.49	<0.49	7.89	17.6	79.7	364	13.2	24.2	<1.22	<0.49	<0.49	<0.49	174	13.2	538	725
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	38	<50	<10	<10	<10	19	37	148	757	27	41	<25	<10	<10	<10	373	25	1130	1460
	14/10/2021	<0.86	<0.86	<0.86	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	50.8	18.1	<0.86	<0.86	<0.86	21.4	74.2	231	1050	32.4	65.6	<2.15	<0.86	<0.86	<0.86	745	37.7	1800	2330
20/04/2022	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	48	15.5	<2.5	<2.5	<2.5	21.5	59.5	208	988	32.2	64.8	<6.25	<2.5	<2.5	<2.5	817	36.8	1800	2290	
MW015	16/08/2017	<0.05	0.19	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	14.2	3.6	<0.02	<0.02	<0.02	5.51	13.1	96.2	332	2.79	23.2	<0.05	<0.02	<0.02	0.03	198	9.04	530	698	
	16/04/2018	<0.10	0.21	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	206	52.2	<0.10	<0.10	<0.10	62.3	116	545	2,580	86.1	252	<0.25	<0.10	<0.10	0.19	960	86.3	3,540	4,950
	19/12/2018	<0.020	0.202	0.068	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	84	4.39	0.022	0.058	<0.0200	24.3	67	270	1,010	37.8	151	<0.0500	<0.0200	<0.0200	0.178	306	38.9	1,320	1,990
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	140	<2.5	<0.50	<0.50	<0.50	37.8	72.2	392	2,000	10.3	175	<1.25	<0.50	<0.50	<0.50	565	68.8	2,560	3,460
	16/10/2019	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	14.2	3.2	<0.02	<0.02	<0.02	4.41	11.3	42.7	210	7.43	17.9	<0.05	<0.02	<0.02	0.05	108	9.14	318	428	
	30/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	110	<25.0	<5.00	<5.00	<5.00	32.5	61.5	326	1,450	42	141	<12.5	<5.00	<5.00	<5.00	334	46.5	1,780	2,540
	7/09/2020	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.2	7	<0.5	<0.5	<0.5	6.1	12.7	60.6	230	10.4	18.3	<1.25	<0.5	<0.5	<0.5	164	11.8	394	541
	29/04/2021	<2.17	<2.17	<2.17	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	119	26.3	<2.17	<2.17	<2.17	39.1	67.8	349	1440	59.3	189	<5.43	<2.17	<2.17	<2.17	440	59.6	1880	2790
	12/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	20.7	7	<0.5	<0.5	<0.5	6.73	20.2	64.9	276	9.86	29.1	<1.24	<0.5	<0.5	<0.5	137	12.6	413	584
21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	54.9	13.2	<1	<1	<1	15.2	29.9	130	538	22.9	60.8	<2.5	<1	<1	<1	370	28.6	908	1260	
MW016	16/08/2017	<0.05	1.64	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	55.8	17.6	<0.02	0.04	<0.02	17.9	70.8	151	680	35.9	94.1	<0.05	<0.02	<0.02	0.26	395	49.1	1,080	1,570	
	16/04/2018	<0.05	1.78	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	44.5	13.4	<0.05	<0.05	<0.05	15.8	49.4	135	544	9.66	71.4	<0.12	<0.05	<0.05	0.16	384	33.5	928	1,300
	16/04/2018	<0.10	1.38	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	68.5	20.4	<0.10	<0.10	<0.10	21.9	87.9	166	909	31.1	84.1	<0.25	<0.10	<0.10	0.21	492	39.5	1,400	1,920
	19/1																														

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
MW046	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.98	1	<0.02	<0.02	<0.02	1.57	7.54	52.6	156	<0.02	7.77	<0.05	<0.02	<0.02	0.02	190	4.32	346	425
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.04	1.2	<0.10	<0.10	<0.10	1.55	6.64	23.4	88.7	2.42	6.96	<0.25	<0.10	<0.10	<0.10	149	3.62	238	288
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	8.5	0.312	<0.0200	<0.0200	<0.0200	3.45	10.3	70.7	186	4.54	13.7	<0.0500	<0.0200	<0.0200	0.054	87.1	8.12	273	393
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	10.7	<0.2	<0.05	<0.05	<0.05	4.57	14.4	63.3	242	2.27	17	<0.12	<0.05	<0.05	0.05	117	11	359	482
	30/05/2019	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	11.5	<5	<1	<1	<1	5.6	12.6	82.8	255	7.5	13	<2.5	<1	<1	<1	74.3	11	329	473
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	12.1	3.2	<0.02	<0.02	<0.02	4.92	12.7	86.2	282	7.41	19.1	<0.05	<0.02	<0.02	0.07	90	11.5	372	529
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	15.4	<9.5	<0.50	<0.50	<0.50	6.8	16.5	94	323	8.3	25.3	<1.25	<0.50	<0.50	<0.50	127	14.1	450	630
	7/09/2020	<0.32	<0.32	<0.32	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	9.61	3.1	<0.32	<0.32	<0.32	4.39	12.2	69.4	204	5.8	15.2	<0.8	<0.32	<0.32	<0.32	92.7	10.6	297	427
	28/04/2021	<0.43	<0.43	<0.43	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	4.96	<2.2	<0.43	<0.43	<0.43	2.56	9	36.2	123	3.87	8.91	<1.09	<0.43	<0.43	<0.43	93.5	6.22	216	288
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.05	0.19	0.74	2.56	0.08	0.19	<0.05	<0.02	<0.02	<0.02	1.93	0.12	4.49	5.97
20/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.12	<1.2	<0.25	<0.25	<0.25	2.25	8.68	35	115	3.45	7.98	<0.62	<0.25	<0.25	<0.25	115	6.72	230	299	
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7
13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196	
21/04/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	3.69	<1.2	<0.23	<0.23	<0.23	0.68	2.01	7.61	22.9	1.91	3.99	<0.58	<0.23	<0.23	<0.23	82.8	1.82	106	127	
MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	0.39	194	12.3	290	396
	16/04/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	<0.0200	2.45	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	63.2	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235
	7/09/2020	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	<0.24	3	3.61	25.2	61.5	5.05	8.95	<0.61	<0.24						

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
																												0.13	220			
																													0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
MW109	29/06/2017	<0.05	3.98	<0.05	<0.05	<0.05	<0.02	<0.05	0.66	<0.05	<0.02	<0.05	153	42.5	<0.02	<0.02	<0.02	9.77	73	252	911	65.4	122	<0.05	<0.02	<0.02	0.09	1,360	68	2,270	3,060	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.9	0.4	<0.05	<0.05	<0.05	0.46	0.46	3.9	15.4	0.96	2.78	<0.12	<0.05	<0.05	<0.05	22.9	0.92	38.3	50.1	
	15/08/2017	0.07	5	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	89.8	34.5	<0.02	0.03	<0.02	23.6	46.2	199	517	40.4	72.3	<0.05	<0.02	<0.02	0.3	781	46.4	1,300	1,860	
	15/08/2017	0.07	13.8	<0.05	<0.05	<0.12	<0.05	<0.12	0.48	<0.12	<0.05	<0.12	72.1	27.4	<0.05	<0.05	<0.12	22.4	45.6	201	501	35.1	68.3	<0.12	<0.05	<0.05	0.32	765	38.8	1,270	1,790	
	24/01/2018	<0.05	4.56	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	73.2	48.2	0.04	0.24	<0.02	21.8	54.8	215	583	37.4	67.2	<0.05	<0.02	<0.02	<0.02	1,200	50	1,780	2,380	
	16/04/2018	<0.10	<0.50	<0.10	<0.10	<0.25	<0.10	<0.25	0.25	<0.25	<0.10	<0.25	48.9	25.5	<0.10	<0.10	<0.10	13.2	28.4	127	304	31.3	50.8	<0.25	<0.10	<0.10	0.22	632	33.3	970	1,360	
	16/04/2018	-	6.23	-	-	-	-	-	<0.50	-	-	-	49.6	46.4	-	-	-	17.2	38	220	350	41.2	51.6	-	-	-	<0.50	666	39.8	982	1,460	
	19/12/2018	0.042	6.13	<0.020	<0.020	<0.050	<0.0200	<0.050	0.248	<0.12	<0.0200	<0.050	67.6	3.16	0.03	0.04	<0.0200	20.6	50.7	196	494	33.8	81.3	<0.0500	<0.0200	<0.0200	0.252	683	36.8	1,180	1,670	
	29/04/2019	<0.05	6.22	<0.05	<0.05	<0.12	<0.05	<0.12	0.32	<0.12	<0.05	<0.12	101	0.4	<0.05	0.07	<0.05	21.6	63	279	767	14.9	97.9	<0.12	<0.05	<0.05	0.06	1,340	46	2,110	2,740	
	17/10/2019	<0.10	7.8	0.12	<0.10	<0.25	<0.10	<0.25	0.37	<0.25	<0.10	<0.25	73.5	29.8	<0.10	<0.10	<0.10	22.6	42	195	578	38.1	71	<0.25	<0.10	<0.10	0.29	779	44.4	1,410	1,980	
	27/04/2020	<5.00	6.5	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	60.5	<25.0	<5.00	<5.00	<5.00	12.5	35	127	416	26.5	55	<12.5	<5.00	<5.00	<5.00	668	30.5	1,080	1,440	
	11/09/2020	<1.58	3.01	<1.58	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	31.7	9.7	<1.58	<1.58	<1.58	8.87	18.7	75.2	216	15.5	27.2	<3.96	<1.58	<1.58	<1.58	348	17.6	564	771	
	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679	
13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1050	53.2	1660	2330		
21/04/2022	<0.5	4.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	33.7	13.4	<0.5	<0.5	<0.5	10.7	19.2	89.2	210	18.1	29	<1.25	<0.5	<0.5	<0.5	454	21.4	664	903		
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000	
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
	21/04/2022	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
	MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
		29/07/2017	<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060
15/08/2017		<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
30/04/2019		<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	55.1	80.6	
16/10/2019		<0.05	0.16	0.11	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	6.58	3.3	0.03	<0.02	<0.02	1.52</														

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTfDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														
PFAS NEMP 2020 Drinking Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTfDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.03	<0.09	<0.03	<0.09	<0.03	<0.09	1.25	0.2	<0.03	<0.03	<0.03	0.12	0.25	1.86	5.66	0.38	0.89	<0.09	<0.03	<0.03	<0.03	5.16	0.2	10.8	16	
	21/04/2021	<0.05	0.12	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.47	0.1	<0.02	<0.03	<0.02	0.03	0.07	0.54	2.87	0.15	0.32	<0.05	<0.02	<0.02	<0.02	1.51	0.05	4.38	6.23	
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.29	0.2	<0.02	<0.02	<0.02	0.11	0.31	1.78	6.24	0.36	1	<0.05	<0.02	<0.02	<0.02	4.38	0.18	10.6	15.8	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.33	1.82	0.1	0.27	<0.05	<0.02	<0.02	<0.02	1	0.03	2.82	4.1	
MW251	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	1.18	1.18
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	2.7	<0.5	<0.10	<0.10	<0.10	0.27	0.4	3.73	10.3	0.67	2.19	<0.25	<0.10	<0.10	<0.10	7.03	0.35	17.3	27.6	
	19/12/2018	-	-	-	-	-	-	-	0.056	-	-	-	9	5.57	-	-	-	1.42	2.85	31.6	47.6	6.37	6.92	-	-	-	0.038	33.6	1.99	75.7	130	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.34	<0.2	<0.05	<0.05	<0.05	0.2	0.26	3.08	8.04	0.16	1.74	<0.12	<0.05	<0.05	<0.05	3.99	0.23	12	20	
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.56	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.87	1.92	0.15	0.41	<0.25	<0.10	<0.10	<0.10	1.46	<0.10	3.38	5.37	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.43	1.77	0.06	0.22	<0.05	<0.02	<0.02	<0.02	0.82	0.06	2.59	3.69	
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.26	0.72	0.04	0.12	<0.05	<0.02	<0.02	<0.02	0.31	0.02	1.03	1.65	
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.48	<0.2	<0.05	<0.05	<0.05	0.21	0.27	2.34	6.76	0.4	1.2	<0.12	<0.05	<0.05	<0.05	1.75	0.24	8.51	14.6	
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.36	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.18	<0.01	0.43	0.54	

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
																												0.13	220		

Location ID Sample Date

Sub-Management Area Three																																
MW009	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.44	<0.05	<0.02	<0.05	1.52	0.2	<0.02	<0.02	<0.02	0.24	0.73	2.54	9.94	0.3	1.4	<0.05	<0.02	<0.02	<0.02	<0.02	18.8	0.8	28.7	36.9
	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.12	<0.05	<0.02	<0.05	0.82	0.1	<0.02	<0.02	<0.02	0.2	0.23	1.52	7.77	0.37	1.25	<0.05	<0.02	<0.02	<0.02	<0.02	12.7	0.62	20.5	25.7
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.26	0.64	2.1	9.31	0.41	1.26	<0.05	<0.02	<0.02	<0.02	<0.02	11.3	0.97	20.6	27.7
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	0.7	<0.2	<0.05	<0.05	<0.05	0.18	0.37	1.36	5.43	0.24	0.63	<0.12	<0.05	<0.05	<0.05	<0.05	10	0.52	15.4	19.6
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.286	<0.020	<0.0200	<0.0200	<0.0200	0.152	0.148	0.756	3.9	0.174	0.318	<0.0500	<0.0200	<0.0200	0.022	0.022	3.13	0.218	7.03	9.1
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.54	<0.12	<0.05	<0.12	0.84	<0.2	<0.05	<0.05	<0.05	0.25	0.74	2.09	6.68	0.28	0.78	<0.12	<0.05	<0.05	<0.05	<0.05	24.9	0.82	31.6	37.9
	15/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	0.2	<0.25	<0.10	<0.25	1.19	<0.5	<0.10	<0.10	<0.10	0.38	0.67	2.8	9.91	0.57	1.17	<0.25	<0.10	<0.10	<0.10	<0.10	15.1	1.04	25	33
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	0.79	<0.2	<0.05	<0.05	<0.05	0.24	0.66	1.75	7.47	0.39	0.94	<0.12	<0.05	<0.05	<0.05	<0.05	13.2	0.71	20.7	26.2
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	0.26	<0.09	<0.04	<0.09	1.01	0.3	<0.04	<0.04	<0.04	0.31	0.75	2.39	9.33	0.45	1.02	<0.09	<0.04	<0.04	<0.04	15	0.98	24.3	31.8	
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.19	<0.25	<0.1	<0.25	1.29	<0.5	<0.1	<0.1	<0.1	0.45	0.85	2.91	10.3	0.58	1.31	<0.25	<0.1	<0.1	<0.1	16.6	1.11	26.9	35.6	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.21	<0.06	<0.02	<0.06	1.4	<0.4	<0.02	<0.02	<0.02	0.47	1.03	3.38	11.8	0.67	1.55	<0.06	<0.02	<0.02	<0.02	<0.02	17	1.34	28.8	38.8
	13/04/2022	<0.05	<0.08	<0.05	<0.05	<0.13	<0.05	<0.13	0.23	<0.13	<0.05	<0.13	1.42	<0.2	<0.05	<0.05	<0.05	0.43	0.89	3.58	11.3	0.63	1.34	<0.13	<0.05	<0.05	<0.05	<0.05	17.6	1.36	28.9	38.8
	MW038	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.51	<0.1	<0.02	<0.02	<0.02	0.13	0.12	0.67	4.37	0.2	0.74	<0.05	<0.02	<0.02	<0.02	<0.02	1.96	0.23	6.33	8.93
19/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	6.72	<0.05	0.04	<0.05	54	16	0.1	5.58	<0.02	17.6	21.5	254	520	31.8	56.2	<0.05	<0.02	0.05	0.57	534	60.5	1,050	1,580	
19/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	0.252	<0.020	<0.0200	<0.0200	<0.0200	0.028	0.096	0.192	1.9	0.046	0.222	<0.0500	<0.0200	<0.0200	<0.0200	1.41	0.08	3.31	4.23		
2/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	0.1	0.04	<0.02	<0.02	0.09	0.07	0.39	1.59	0.11	0.26	<0.05	<0.02	<0.02	0.02	1.49	0.14	3.08	4.56	
15/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	0.02	<0.02	<0.02	0.12	0.09	0.62	3.05	0.19	0.43	<0.05	<0.02	<0.02	0.02	1.56	0.18	4.61	6.93	
15/10/2019		-	-	-	-	-	-	-	-	-	-	-	0.44	0.4	-	-	-	-	0.1	1.69	3.07	0.29	0.44	-	-	-	0.03	1.59	0.19	4.66	8.26	
28/04/2020		<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.05	0.2	0.03	<0.02	<0.02	0.15	0.15	0.71	3.73	0.19	0.66	<0.05	<0.02	<0.02	0.03	3.47	0.2	7.2	10.6	
11/09/2020		<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	0.41	<0.2	<0.03	<0.03	<0.03	0.11	0.09	0.58	2.91	0.17	0.44	<0.08	<0.03	<0.03	<0.03	1.45	0.17	4.36	6.33	
29/04/2021		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.33	<0.2	<0.05	<0.05	<0.05	0.1	0.21	0.48	2.58	0.14	0.34	<0.12	<0.05	<0.05	<0.05	<0.05	6.02	0.16	8.6	10.4
11/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.16	0.54	2.63	0.15	0.43	<0.05	<0.02	<0.02	<0.02	3.28	0.15	5.91	7.99	
21/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.11	0.12	0.52	2.65	0.15	0.41	<0.05	<0.02	<0.02	<0.02	2.89	0.16	5.54	7.5	
MW043		17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	6.4	1.1	<0.05	<0.05	<0.05	3.69	6.51	36.1	210	5.35	13.9	<0.12	<0.05	<0.05	<0.05	0.16	62.6	13.6	273	359
		19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	4.74	1.8	<0.05	<0.05	<0.05	3.38	8.08	30.7	184	4.02	8.7	<0.12	<0.05	<0.05	0.19	132	11	316	389
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.072	<0.050	<0.0200	<0.050	6.22	0.56	0.02	<0.0200	<0.0200	3.23	8.48	33.9	146	4.02	14	<0.0500	<0.0200	<0.0200	0.126	66.9	9.23	213	293	
	1/05/2019	<0.05	0.29	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	18.4	3.6	<0.05	<0.05	<0.05	4.46	9.02	39.8	127	7.56	26.7	<0.12	<0.05	<0.05	<0.05	80.2	9.04	207	326	
	15/10/2019	<0.05	<0.05	<0.10	<0.05	<0.12	<0.05	<0.12	0.1	<0.05	<0.02	<0.05	2.28	0.3	<0.02	<0.02	<0.02	1.88	6.58	15.4	104	2.43	3.4	<0.05	<0.02	<0.02	0.22	134	7.88	238	278	
	28/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.44	<2.5	<0.50	<0.50	<0.50	1.5	3.24	15.6	72.9	2.44	5.59	<1.25	<0.50	<0.50	<0.50	76.9	4.64	150	187	
	10/09/2020	<0.07	0.29	<0.07	<0.07	<0.18	<0.07	<0.18	0.07	<0.18	<0.07	<0.18	4.27	1.8	<0.07	<0.07	<0.07	1.88	3.1	18.3	85.7	3.12	5.59	<0.18	<0.07	<0.07	0.08	57.2	6.3	143	188	
	29/04/2021	<1	<1	<1																												

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														
PFAS NEMP 2020 Drinking Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
MW142	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08		
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0362	<0.002	<0.0005	<0.0005	<0.0005	0.0095	0.0088	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684
	17/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0445	<0.002	<0.0005	<0.0005	<0.0005	0.0039	0.0061	0.0478	0.461	0.0065	0.0302	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.067	0.0038	0.528	0.671
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	0.38	0.38	
	16/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0015	<0.002	<0.0005	<0.0005	<0.0005	0.0012	0.002	0.022	0.0006	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0007	0.0486	0.0565	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.15	0.15
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03	
	21/04/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.2	0.27	
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.15	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.39	0.51	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.05	0.05	
MW247	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.94	<0.05	<0.02	<0.05	3.76	0.6	<0.02	<0.02	<0.02	0.37	3.11	3.99	22.6	0.96	3	<0.05	<0.02	<0.02	<0.02	79.3	1.71	102	120		
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.73	<0.05	<0.02	<0.05	1.6	0.4	<0.02	<0.02	<0.02	0.41	1.88	4.05	21.8	0.64	2.27	<0.05	<0.02	<0.02	0.04	107	1.38	129	142		
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.428	<0.050	<0.0200	<0.050	3.01	0.108	<0.0200	<0.0200	<0.0200	0.858	3.99	7.01	38.9	0.902	3.68	<0.0500	<0.0200	<0.0200	0.048	67.6	3.57	106	130		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.67	0.2	<0.02	<0.02	<0.02	0.23	2.53	2.61	8.84	0.37	0.9	<0.05	<0.02	<0.02	0.02	66.7	0.99	77.3	95.2		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	0.82	0.3	<0.02	<0.02	<0.02	0.29	3.55	2.89	11.8	0.45	1.09	<0.05	<0.02	<0.02	<0.02	78.4	1.08	90.2	101		
	1/05/2019	-	-	-	-	-	-	-	0.26	-	-	-	0.75	2.9	-	-	-	0.59	3.23	40.8	10.6	4.98	0.96	-	-	-	-	76.9	1.48	85.7	132		
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.16	<0.05	<0.02	<0.05	1.63	0.5	<0.02	<0.02	<0.02	0.55	2.99	5.78	25.6	0.87	2.27	<0.05	<0.02	<0.02	0.03	85.2	1.99	111	128		
	28/04/2020	<0.48	<0.48	<0.48	<0.48	<1.20	<0.48	<1.20	<0.48	<1.20	<0.48	<1.20	1.2	<2.4	<0.48	<0.48	<0.48	0.62	2.77	4.21	27.8	<0.48	1.86	<1.20	<0.48	<0.48	<0.48	76.8	2.68	105	118		
	10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.18	<0.07	<0.18	0.5	<0.18	<0.07	<0.18	1.28	0.4	<0.07	<0.07	<0.07	0.54	2.16	5.16	25.1	0.74	1.69	<0.18	<0.07	<0.07	<0.07	56.1	2.54	81.2	96.2		
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	1.5	<5	<1	<1	<1	<1	3.2	7.3	28	1.5	2	<2.5	<1	<1	<1	121	2.4	149	167		
11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.52	<1.2	<0.25	<0.25	<0.25	0.72	2.58	6.98	27.3	1	2.12	<0.62	<0.25	<0.25	<0.25	96.4	2.25	124	141			
21/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.38	<0.62	<0.25	<0.62	0.85	<1.2	<0.25	<0.25	<0.25	0.38	1.38	3.15	14.6	<0.48	1.05	<0.62	<0.25	<0.25	<0.25	74.4	1.52	89	97.3			
MW248	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	98.6	<0.5	<0.10	<0.10	<0.10	9.52	74.6	97.9	475	18.9	73.3	<0.25	<0.10	<0.10	0.17	693	36.6	1,170	1,580		
	24/01/2018	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	7	<5.0	0.03	<0.02	<0.02	1.8	6.5	17.7	73.7	<1.00	7.8	<0.05	<0.02	<0.02	<0.02	107	6.5	181	228		
	19/04/2018	-	<1.00	-	-	-	-	-	<1.00	-	-	-	70	43.2	-	-	-	15.2	83	446	727	66.7	73	-	-	<1.00	1,510	61	2,240	2,720			
	19/12/2018	<0.020	0.108	<0.020	<0.020	<0.050	<0.0200	<0.050	0.172	<0.050	<0.0200	<0.050	40.9	0.738	0.028	0.026	<0.0200	10.7	62.4	119	468	13	58.2	<0.0500	<0.0200	<0.0200	0.552	794	40.4	1,260	1,610		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.06	<0.12	<0.05	<0.12	33.4	5.1	<0.05	<0.05	<0.05	8.33	48.7	87.2	348	11.5	46.8	<0.12	<0.05	<0.05	0.13	828	27.3	1,180	1,440		
	15/10/2019	<0.10	0.36	<0.10	<0.10	<0.25	<0.10	<0.25	0.65	<0.25	<0.10	<0.25	10.5	1.1	<0.10	<0.10	<0.10	2.43	6.27	22.9	85.5	4.36	8.76	<0.25	<0.10	<0.10	<0.10	86.1	6.1	172	235		
	28/04/2020	<2.50	<2.50	<2.50	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	<2.50	<6.25	34.2	<12.5	<2.50	<2.50	<2.50	9	46.2	97.8	491	12.5	48	<6.25	<2.50	<2.50	<2.50	725	32.2	1,220	1,500		
	10/09/2020	<0.36																															

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTiDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														
PFAS NEMP 2020 Drinking Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTiDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
MW026	17/08/2017	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	0.91	0.2	<0.02	<0.02	<0.02	0.43	0.89	2.94	10.7	0.65	1.42	<0.05	<0.02	<0.02	<0.02	24.9	1.24	35.6	44.6
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.13	0.29	0.81	3.06	0.17	0.34	<0.05	<0.02	<0.02	<0.02	12.5	0.33	15.6	18.1
	18/12/2018	<0.020	0.23	<0.020	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	2.04	<0.020	<0.0200	0.034	<0.0200	0.806	1.81	5.4	19.6	1.06	2.11	<0.0500	<0.0200	<0.0200	0.02	45.3	1.89	64.9	80.4
	2/05/2019	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	0.97	0.2	<0.02	0.06	<0.02	0.41	0.98	2.62	9.25	0.49	1.14	<0.05	<0.02	<0.02	<0.02	37.9	0.97	47.2	55.3
	31/05/2019	<0.1	0.11	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.77	<0.5	<0.1	<0.1	<0.1	0.4	0.57	2.5	7.06	0.51	0.77	<0.25	<0.1	<0.1	<0.1	22.8	0.88	29.9	36.4
	14/10/2019	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.09	<0.05	<0.02	<0.05	0.98	0.3	<0.02	<0.02	<0.02	0.41	0.84	2.9	9.22	0.62	0.86	<0.05	<0.02	<0.02	<0.02	30.2	0.95	39.4	47.5
	28/04/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	0.48	0.3	<0.02	0.07	<0.02	0.25	1.05	1.58	5.31	0.33	0.74	<0.05	<0.02	<0.02	<0.02	27.4	0.64	32.7	38.4
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	0.13	<0.1	<0.04	<0.1	0.11	<0.2	<0.04	<0.1	<0.04	0.05	0.22	0.42	2.16	0.08	0.14	<0.1	<0.04	<0.04	<0.04	19.2	0.21	21.4	22.7
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.1	<0.25	<0.1	<0.25	0.1	<0.5	<0.1	<0.1	<0.1	<0.1	0.41	0.33	1.68	<0.1	0.11	<0.25	<0.1	<0.1	<0.1	17.8	0.23	19.5	20.8
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.09	<0.12	<0.05	<0.12	0.1	<0.2	<0.05	<0.05	<0.05	0.06	0.35	0.3	1.72	0.07	0.12	<0.12	<0.05	<0.05	<0.05	16.2	0.21	17.9	19.2
21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	0.11	<0.24	<0.1	<0.24	0.14	<0.5	<0.1	<0.1	<0.1	<0.1	0.57	0.41	2.58	<0.1	0.16	<0.24	<0.1	<0.1	<0.1	27.1	0.31	29.7	31.4	
MW033	18/08/2017	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.98	<0.05	<0.02	<0.05	1.36	<0.1	0.02	0.29	<0.02	0.65	0.9	2	10.6	1.13	0.96	<0.05	<0.02	<0.02	0.04	28	1.42	38.6	48.6
	17/04/2018	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.6	<0.05	<0.02	<0.05	0.79	0.6	0.04	0.54	<0.02	1.01	0.77	2.88	7.99	1.07	0.92	<0.05	<0.02	<0.02	0.13	30.7	1.71	38.7	50
	18/12/2018	<0.020	0.09	0.148	<0.020	<0.050	<0.0200	<0.050	0.424	<0.050	<0.0200	<0.050	0.602	0.068	0.064	0.43	<0.0200	1.11	0.708	2.61	7.21	1.09	0.632	<0.0500	<0.0200	<0.0200	0.116	41.4	2.05	48.6	58.8
	2/05/2019	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.33	<0.05	<0.02	<0.05	0.6	<0.1	0.06	0.38	<0.02	0.74	0.62	2.38	4.86	0.34	0.65	<0.05	<0.02	<0.02	0.12	26.7	1.11	31.6	39
	15/10/2019	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	1.11	0.5	0.05	0.13	<0.02	0.96	1.11	3.39	11	1.2	0.98	<0.05	<0.02	<0.02	0.12	25.6	1.78	36.6	48.4
	28/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	0.26	<0.05	<0.02	<0.05	3.24	0.7	0.05	0.48	<0.02	1.14	1.3	3.44	7.14	1.23	1.25	<0.05	<0.02	<0.02	0.08	31.8	1.79	38.9	54
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	0.2	<0.16	<0.06	<0.16	0.7	0.5	<0.06	<0.06	<0.06	0.81	0.78	2.77	7.94	0.99	0.78	<0.16	<0.06	<0.06	<0.06	20.1	1.62	28	37.2
	30/04/2021	<0.05	<0.05	0.08	<0.05	<0.12	<0.05	<0.12	0.24	<0.12	<0.05	<0.12	0.26	0.3	0.05	0.28	<0.05	0.48	0.24	1.1	2.18	0.5	0.28	<0.12	<0.05	<0.05	0.06	12.6	0.64	14.8	19.3
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.13	<0.12	<0.05	<0.12	0.8	0.5	<0.05	<0.05	<0.05	1.12	0.86	3.06	8.17	1.15	0.93	<0.12	<0.05	<0.05	<0.05	18.2	2.15	26.4	37.1
	21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.21	<0.25	<0.1	<0.25	1.02	<0.5	<0.1	0.43	<0.1	0.75	0.68	3.05	8.56	0.91	1.11	<0.25	<0.1	<0.1	<0.1	19.7	1.54	28.3	38

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220				
PFAS NEMP 2020 Drinking Water																															0.56	0.07

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
MW034	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	10.7	<0.1	<0.02	<0.02	<0.02	0.25	0.72	2.76	15.4	0.9	5.28	<0.05	<0.02	<0.02	<0.02	1.56	0.36	17	37.9
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.8	0.8	<0.02	<0.02	<0.02	0.48	0.57	4.33	14.5	0.99	4.74	<0.05	<0.02	<0.02	<0.02	2.73	0.5	17.2	35.4
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	9.09	0.076	<0.0200	<0.0200	<0.0200	0.71	1.13	7.09	22.9	1.53	6.63	<0.0500	<0.0200	<0.0200	<0.0200	7.39	1.07	30.3	57.6
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.12	<0.2	<0.05	<0.05	<0.05	0.54	0.74	5.16	17.4	0.18	4.9	<0.12	<0.05	<0.05	<0.05	4.92	0.76	22.3	40.7
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.7	0.3	<0.02	<0.02	<0.02	0.39	0.42	4.82	10.6	1.05	3.16	<0.05	<0.02	<0.02	<0.02	1.43	0.42	12	29.3
	28/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.06	0.9	<0.02	<0.02	<0.02	0.47	0.6	4.02	13	1.19	4.55	<0.05	<0.02	<0.02	<0.02	2.62	0.52	15.6	34
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	6.24	0.6	<0.06	<0.06	<0.06	0.43	0.48	4.46	11.4	1.13	4.2	<0.16	<0.06	<0.06	<0.06	1.77	0.47	13.2	31.2
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.05	0.7	<0.02	<0.02	<0.02	0.48	0.69	4.47	13.2	1.04	4.01	<0.05	<0.02	<0.02	<0.02	5.08	0.59	18.3	35.3
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.5	0.8	<0.05	<0.05	<0.05	0.48	0.6	4.97	13.1	1.22	4.18	<0.12	<0.05	<0.05	<0.05	1.92	0.42	15	34.2
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	6.06	0.6	<0.02	<0.02	<0.02	0.39	0.56	4.48	11.4	1.06	4.15	<0.06	<0.02	<0.02	<0.02	2.21	0.47	13.6	31.4
MW049	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	0.1	0.15	<0.02	0.02	0.23	0.06	0.52	1.69	0.19	0.22	<0.05	<0.02	0.02	0.07	1.74	0.29	3.43	5.63
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	0.05	<0.02	<0.02	0.09	0.08	0.36	2.26	0.14	0.34	<0.05	<0.02	<0.02	<0.02	1.6	0.16	3.86	5.37
	28/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.27	1.48	0.06	0.23	<0.05	<0.02	<0.02	<0.02	0.8	0.08	2.28	3.27
	12/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	1.11	<0.02	0.2	0.47	<0.02	0.33	0.21	0.4	0.03	<0.05	0.02	0.16	0.77	1.46	1.16	1.67	6.48
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	0.62	<0.02	0.08	0.41	0.03	0.39	0.74	0.33	0.08	<0.05	<0.02	0.07	0.38	1.56	0.75	2.3	5.66
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.084	<0.020	0.13	<0.0200	0.02	0.146	0.022	0.202	0.322	0.136	0.054	<0.0500	<0.0200	<0.0200	0.072	0.518	0.186	0.84	1.89
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0034	<0.001	<0.0005	<0.001	0.535	0.033	0.0502	0.0062	0.0085	0.481	0.133	1.24	3.54	0.574	0.448	0.0024	0.0013	0.0053	0.0344	1.42	0.369	4.96	8.88
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	0.03	<0.02	0.03	0.07	0.08	0.39	2.14	0.11	0.23	<0.05	<0.02	<0.02	<0.02	1.41	0.12	3.55	4.94
	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	2.24	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	0.09	<0.05	2.33	4.6
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	1.93	<0.05	0.86	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.05	3.89
17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	2.05	0.07	0.75	<0.12	<0.05	<0.05	<0.05	0.08	<0.05	2.13	3.99	
MW056	17/04/2018	<0.10	0.19	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.14	0.6	<0.10	<0.10	<0.10	<0.10	<0.10	0.85	2.77	0.34	0.55	<0.25	<0.10	<0.10	<0.10	0.69	<0.10	3.46	7.13
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.28	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	0.78	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.94	1.48	
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.32	<0.02	0.08	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	0.36	0.61	
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.18	1.81	0.03	0.5	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.03	3.38
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	0.2	<0.02	<0.02	<0.02	0.05	0.02	0.57	2.36	0.12	0.54	<0.05	<0.02	<0.02	<0.02	0.21	0.05	2.57	5.18
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.63	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.28	1.79	0.07	0.51	<0.05	<0.02	<0.02	<0.02	0.12	0.02	1.91	3.46
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.84	0.2	<0.04	<0.04	<0.04	0.11	0.1	0.67	4.22	0.17	0.7	<0.09	<0.04	<0.04	<0.04	1.5	0.14	5.72	8.65
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.68	0.1	<0.02	<0.02	<0.02	0.03	0.03	0.38	1.89	0.08	0.46	<0.05	<0.02	<0.02	<0.02	0.28	0.03	2.17	3.96
	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.72	<0.2	<0.05	<0.05	<0.05	0.2	0.43	3.99	8.06	<0.05	1.77	<0.12	<0.05	<0.05	<0.				

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
																												0.13	220		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS
MW063	17/08/2017	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.17	0.4	<0.02	<0.02	<0.02	0.43	0.75	3.44	13.3	0.75	1.98	<0.05	<0.02	<0.02	<0.02	17.1	1	30.4	40.6
	17/04/2018	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.74	0.8	<0.02	<0.02	<0.02	0.71	1.22	5.41	15.3	1.11	2.4	<0.05	<0.02	<0.02	<0.02	28.3	1.2	43.6	58.5
	17/12/2018	<0.020	0.146	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.5	0.126	<0.0200	<0.0200	<0.0200	0.488	0.67	4.37	12.5	0.83	1.51	<0.0500	<0.0200	<0.0200	<0.0200	15.1	0.806	27.6	38
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.07	0.12	0.56	1.51	0.11	0.23	<0.05	<0.02	<0.02	<0.02	3.46	0.12	4.97	6.38
	16/10/2019	<0.05	0.15	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.28	0.2	<0.02	<0.02	<0.02	0.45	0.76	3.5	9.49	0.72	1.19	<0.05	<0.02	<0.02	<0.02	14.2	0.82	23.7	32.8
	29/04/2020	<0.05	0.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.55	0.4	<0.02	<0.02	<0.02	0.43	0.99	4.05	10.8	0.74	1.65	<0.05	<0.02	<0.02	<0.02	19.3	0.85	30.1	41.1
	10/09/2020	<0.05	0.12	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	1.21	0.5	<0.04	<0.04	<0.04	0.43	0.77	3.18	11.2	0.73	1.41	<0.09	<0.04	<0.04	<0.04	19.3	0.85	30.5	39.7
	30/04/2021	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.16	0.6	<0.05	<0.05	<0.05	0.48	0.71	3.4	10.5	0.74	1.39	<0.12	<0.05	<0.05	<0.05	15.9	0.8	26.4	35.8
	13/10/2021	<0.05	0.17	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.23	0.6	<0.02	<0.02	<0.02	0.5	0.99	3.5	12.4	0.72	1.82	<0.06	<0.02	<0.02	<0.02	19.5	0.92	31.9	42.4
21/04/2022	<0.05	0.12	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.34	0.5	<0.05	<0.05	<0.05	0.48	0.82	3.64	12.3	0.91	1.7	<0.12	<0.05	<0.05	<0.05	24.9	1.03	37.2	47.7	
MW112	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	0.58	0.08	4.22	9.28
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	2.14	0.58	38.3	79
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	0.028	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	0.054	54.1	5.45	168	257
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<1.88	<0.75	<0.75	<0.75	128	6.4	241	305
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.03	<1.2	<0.05	<0.05	<0.05	1.1	3.82	13.6	50.8	1.98	4.76	<0.12	<0.05	<0.05	<0.05	92	2.3	143	173
	12/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.68	<1.2	<0.25	<0.25	<0.25	0.42	1.22	6.85	24.8	0.92	1.72	<0.62	<0.25	<0.25	<0.25	31.8	0.92	56.6	70.3
MW120	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.17	1.3	<0.02	<0.02	<0.02	1.07	1.52	8.97	29.4	1.62	4.72	<0.05	<0.02	<0.02	0.02	23.3	1.91	52.7	78
	18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0225	<0.002	<0.0005	0.0011	<0.0005	0.0021	0.0086	0.0168	0.11	0.0032	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	0.224	0.007	0.334	0.411
	2/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0018	<0.001	<0.0005	<0.001	1.54	0.103	<0.0005	0.0032	<0.0005	0.422	1.09	3.19	11.3	0.607	1.65	<0.0005	<0.0005	<0.0005	0.0056	15.6	1	26.9	36.5
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.89	0.6	<0.02	<0.02	<0.02	0.49	0.65	4.28	13.2	0.85	1.73	<0.05	<0.02	<0.02	<0.02	10.6	0.99	23.8	35.3
	28/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	2.07	0.7	<0.02	<0.02	<0.02	0.58	1.79	4.23	17.2	0.86	2.02	<0.05	<0.02	<0.02	<0.02	40.2	1.64	57.4	71.4
	11/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.52	0.8	<0.03	<0.03	<0.03	0.69	0.92	5.36	16.4	1.1	2.4	<0.08	<0.03	<0.03	<0.03	14.2	1.42	30.6	45.8
	30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.67	0.7	<0.1	<0.1	<0.1	0.53	0.82	3.8	13.8	0.78	1.89	<0.25	<0.1	<0.1	<0.1	22.6	1.13	36.4	47.7
	11/10/2021	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.3	0.7	2.68	9.6	0.52	1.38	<0.05	<0.02	<0.02	<0.02	15.3	0.77	24.9	33
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.87	0.9	<0.05	<0.05	<0.05	0.75	1.06	6.15	20	1.23	3.07	<0.12	<0.05	<0.05	<0.05	22.4	1.69	42.4	60.1	
MW121	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.87	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.19	2.13	0.04	0.64	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	2.25	4.03
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.49	<0.5	<0.10	<0.10	<0.10	<0.10	0.22	2.39	<0.10	0.79	<0.25	<0.10	<0.10	<0.10	0.32	<0.10	2.71	5.21	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.82	<0.2	<0.05	<0.05	<0.05	<0.05	0.16	1.59	<0.05	0.49	<0.12	<0.05	<0.05	<0.05	0.15	<0.05	1.74	3.21	
	18/10/2019	<0.15	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.23	<0.5	<0.10	<0.10	<0.10	&													

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW136	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.18	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.24	0.96	0.14	0.14	<0.05	<0.02	<0.02	<0.02	0.81	0.04	1.77	2.59			
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.22	0.58	0.1	0.07	<0.05	<0.02	<0.02	<0.02	1.15	0.03	1.73	2.33			
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0335	0.006	<0.0005	0.0012	<0.0005	0.0105	0.0152	0.0495	0.218	0.0269	0.0341	<0.0005	<0.0005	<0.0005	0.0012	0.43	0.0125	0.648	0.839		
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.11	0.4	0.05	0.05	<0.05	<0.02	<0.02	<0.02	0.45	0.02	0.85	1.17			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.23	0.92	0.07	0.08	<0.05	<0.02	<0.02	<0.02	3.07	0.07	3.99	4.63			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.51	0.64			
	28/04/2021	<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.24	0.03	0.02	<0.05	<0.02	<0.02	<0.02	0.61	0.02	0.85	1.21				
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.52	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.36	<0.01	0.88	1.11				
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.24	0.04	0.02	<0.05	<0.02	<0.02	<0.02	0.58	<0.01	0.82	0.92		
MW140	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
	12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0236	0.003	<0.0005	<0.0005	<0.0005	0.0008	0.0011	0.0084	0.135	0.0029	0.0146	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.0007	0.139	0.194		
	18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0247	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0014	0.0093	0.0769	0.0017	0.0128	<0.0005	<0.0005	<0.0005	<0.0005	0.0264	0.0009	0.103	0.155		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.16	<0.01	0.27	0.35			
	16/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0405	<0.002	<0.0005	<0.0005	<0.0005	0.0028	0.0084	0.0483	0.139	0.0142	0.0207	<0.0005	<0.0005	<0.0005	<0.0005	0.202	0.0057	0.341	0.482		
	29/04/2020	<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.27	0.35			
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.15	0.27			
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.15	0.27			
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
MW222	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.27	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.34	0.5			
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	1.27	0.1	<0.02	<0.02	<0.02	0.09	0.23	0.58	5.25	0.12	0.91	<0.05	<0.02	<0.02	<0.02	2.26	0.16	7.51	11			
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	0.634	<0.020	<0.0200	<0.0200	<0.0200	0.082	0.124	0.538	2.64	0.112	0.444	<0.0500	<0.0200	<0.0200	<0.0200	1.11	0.146	3.75	5.83			
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0994	0.006	<0.0005	<0.0005	<0.0005	0.0073	0.0177	0.0672	0.339	0.0127	0.079	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0145	0.523	0.827		
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.23	1.73	0.04	0.29	<0.05	<0.02	<0.02	<0.02	0.34	0.04	2.07	3.1			
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.23	1.73	0.04	0.29	<0.05	<0.02	<0.02	<0.02	0.34	0.04	2.07	3.1			
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.23	1.73	0.04	0.29	<0.05	<0.02	<0.02	<0.02	0.34	0.04	2.07	3.1			
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.34	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.28	0.02	0.62	0.85			
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.07	0.17	0.27			
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	<0.01	0.2	0.2		
MW223	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.95	<0.1	<0.02	<0.02	<0.02	0.09	0.22	0.67	4.94	0.23	0.64	<0.05	<0.02	<0.02	<0.02	6.64	0.23	11.6	14.6
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	0.18	0.17	1.14	4.61	0.27	0.65	<0.05	<0.02	<0.02	<0.02	9.89	0.37	14.5	18.3				
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.44	<0.020	<0.0200	<0.0200	<0.0200	0.108	0.138	0.612	2.97	0.128	0.328	<0.0500	<0.0200	<0.0200	<0.0200	6.73	0.252	9.7	11.7				
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<																									

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
																												0.13	220		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
MW226	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0576	0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0026	0.071	0.0023	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0201	0.0013	0.0911	0.163
	19/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0533	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0023	0.0271	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.016	0.0012	0.0431	0.105
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0219	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0304	<0.0005	0.0049	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	<0.0005	0.0521	0.0804
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0067	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	<0.0005	0.0155	0.0248
	25/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.25	<0.01	0.29	0.35
	23/09/2020	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.03
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
MW227	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.11	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0622	0.003	<0.0005	<0.0005	<0.0005	0.0008	0.0008	0.0039	0.16	0.0024	0.0185	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0239	0.0016	0.184	0.277
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0156	<0.002	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	0.0026	0.0346	<0.0005	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0034	0.0006	0.038	0.0611
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0575	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.006	0.127	0.0025	0.0301	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0172	0.0009	0.144	0.247
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	0.002	0.002	
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW228	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.03	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0418	<0.002	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.003	0.0937	0.0019	0.0099	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0217	0.0014	0.115	0.174
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0398	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0021	0.0452	0.0012	0.0115	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0094	0.0005	0.0546	0.11
	25/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	<0.01	0.22	0.36
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.14
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02							

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220		
PFAS NEMP 2020 Drinking Water																																		0.56	0.07
Location ID	Sample Date																																		
MW235	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0412	0.016	<0.0005	<0.0005	<0.0005	0.0769	0.0038	0.206	0.0866	0.168	0.0184	<0.0005	<0.0005	<0.0005	0.0046	0.0333	0.113	0.12	0.768				
	29/04/2020	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.1	<0.02	0.2	0.09	0.17	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.18	0.14	0.98				
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	0.1	<0.02	<0.02	<0.02	0.17	<0.02	0.41	0.09	0.28	<0.02	<0.05	<0.02	<0.02	0.04	0.08	0.28	0.17	1.48				
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.02	<0.02	<0.02	0.12	<0.02	0.29	0.12	0.18	0.02	<0.05	<0.02	<0.02	0.03	0.06	0.23	0.18	1.15				
MW241	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.08	<0.05	0.08	0.08	0.08				
	12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.384	0.018	<0.0005	<0.0005	<0.0005	0.012	0.0287	0.0887	2.23	0.0386	0.0334	<0.0005	<0.0005	<0.0005	<0.0005	0.0739	0.0046	2.3	2.91				
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.875	<0.002	<0.0020	<0.0020	<0.0020	0.0296	0.0342	0.469	3.48	0.073	0.417	<0.0050	<0.0020	<0.0020	<0.0020	0.0984	0.0306	3.58	5.51				
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	2.62	<0.05	0.32	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.74	3.48				
	17/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.437	0.016	<0.0005	<0.0005	<0.0005	0.0085	0.0671	0.165	2.19	0.0448	0.318	<0.0005	<0.0005	<0.0005	<0.0005	0.176	0.0111	2.37	3.43				
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.2	<0.02	<0.02	<0.02	0.04	0.18	2.62	0.04	0.33	<0.05	<0.02	<0.02	<0.02	0.37	<0.01	2.99	4.16					
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.2	<0.02	<0.02	<0.02	0.04	0.14	2.39	0.04	0.35	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.61	3.79					
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.2	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.45	0.02	2.79	3.92					
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.1	<0.02	<0.02	<0.02	0.05	0.13	1.98	0.04	0.32	<0.05	<0.02	<0.02	<0.02	0.26	<0.01	2.24	3.23					
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	0.07	0.24	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.44	0.04	2.78	3.84					
	MW242	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.15	<0.2	<0.05	<0.05	<0.05	<0.05	0.24	0.68	<0.05	0.12	<0.12	<0.05	<0.05	<0.05	0.06	0.05	1.74	2.3				
		19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	0.21	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.02	0.43	0.52				
17/12/2018		<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.21	0.016	<0.0020	<0.0020	<0.0020	0.0092	0.0456	0.172	1.89	0.0372	0.092	<0.0050	<0.0020	<0.0020	<0.0020	0.489	0.0224	2.38	2.98				
1/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0263	0.003	<0.0005	<0.0005	<0.0005	0.0037	0.0142	0.0292	0.178	0.0071	0.0226	<0.0005	<0.0005	<0.0005	<0.0005	0.238	0.0088	0.416	0.531				
17/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.51	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.56	0.02	1.07	1.34					
29/04/2020		<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.5	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.26	0.01	0.76	1.04					
9/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.4					
30/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.2	0.01	0.45	0.59					
12/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.06	0.33	0.33	0.06	0.33	<0.05	<0.02	<0.02	<0.02	0.17	<0.01	0.5	0.67					
13/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.08	0.4	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.16	0.01	0.56	0.79					
MW243	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	19.5	0.8	<0.05	<0.05	<0.05	0.98	1.24	9.38	55.7	2.68	10.9	<0.12	<0.05	<0.05	<0.05	1.77	0.98	57.5	104				
	17/04/2018	<0.10	3.15	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	162	29.3	<0.10	<0.10	<0.10	37	7.9	302	1,010	53.1	164	<0.25	<0.10	<0.10	<0.10	366	49.2	1,380	2,250				
	17/12/2018	<0.020	0.132	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	6.4	0.354	<0.0200	<0.0200	<0.0200	1.13	1.84	11.4	29.5	2.02	4.27	<0.0500	<0.0200	<0.0200	<0.0200	12	1.97	41.5	71				
	17/10/2019	<0.10	1.83	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	106	21.1	<0.10	<0.10	<0.10	26.4	35.6	232	747	41.4	106	<0.25	<0.10	<0.10	0.21	314	44.7	1,060	1,680				
	29/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	9.52	2.4	<0.25	<0.25	<0.25	2.42	3.22	23.3	59.6	5.1	8.98	<0.62	<0.25	<0.25	<0.25	92.4	3.8	152	211				
	9/09/2020	<0.48	<0.48	<0.48	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	29	8	<0.48	<0.48	<0.48	5.5	7.82	60.5	155	14.5	25	<1.21	<0.48	<0.48	<0.48	191	10.6	346	507				
	30/04/2021	<0.24	<0.24	<0.24	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	3.4	<1.2	<0.24	<0.24	<0.24	0.76	0.92	7.51	14.3	1.72	2.55	<0.59	<0.24	<0.24	<0.24	32	1.28	46.3	64.4				
	14/10/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.22	1.3	<0.02	<0.02	<0.02	1.01	2.27	11.1	22.4	2.63	4.4	<0.05	<0.02	<0.02	0.02	64.7	1.84	87.1	116				
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.84	0.7	<0.05	<0.05	<0.05	0.53	0.96	5.82	14.3	1.42	2.49	<0.12	<0.05	<0.05	<0.05	16.1	1.04	30.4	46.2				

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02	
MW265	23/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	0.2	0.09	0.1	-	-	-	-	-	-	0.2	0.52
	17/04/2018	-	-	<0.10	-	-	-	-	-	-	-	1.81	-	-	-	-	<0.10	-	0.47	2.22	0.13	0.78	-	-	-	-	0.24	<0.10	2.46	5.65	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	2.52	<0.002	<0.0020	<0.0020	<0.0020	0.0578	0.061	0.764	5.8	0.127	1.22	<0.0050	<0.0020	<0.0020	<0.0020	0.439	0.0566	6.24	11	
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	1.03	<0.05	0.3	<0.12	<0.05	<0.05	<0.05	0.22	<0.05	1.25	2.27	
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.49	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.75	<0.10	0.21	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	0.75	1.45	
	29/04/2020	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.76	<0.02	0.19	<0.05	<0.02	<0.02	<0.02	0.53	<0.01	1.29	2.07	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.59	<0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.97	0.03	0.27	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.24	2.22	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	0.37	0.02	0.11	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.45	0.9	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.66	<0.1	<0.02	<0.02	<0.02	<0.02	0.27	1.14	0.08	0.36	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	1.41	2.78	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	0.46	<0.02	0.12	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.54	1.01	
MW300	30/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.06	0.02	0.31	0.7	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.23	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.05	0.02	0.28	0.66	
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.34	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.09	0.02	0.43	0.9	
MW470	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.11	0.38	0.04	0.1	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.47	0.76		
	13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.14	0.16		
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0073	<0.002	0.0017	<0.0005	<0.0005	0.0007	0.0019	0.0122	0.0443	<0.0005	0.0043	<0.0005	<0.0005	<0.0005	0.0015	0.104	0.0063	0.148	0.184	
	10/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.1	0.1	
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.2	<0.01	0.27	0.27	
	23/09/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	<0.01	0.16	0.28	
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.12	
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.42	<0.05	0.49	0.49	
22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.13	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.42	<0.02	0.55	0.66		

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
																												0.13	220			
																													0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
MW214	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0225	<0.002	<0.0005	<0.0005	<0.0005	0.0021	0.0022	0.0077	0.0287	0.0031	0.0033	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0734	0.0058	0.102	0.149
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0052	<0.002	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0054	0.0116	0.0064	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0306	0.0024	0.0422	0.0654
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0053	<0.002	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0019	0.0094	<0.0005	0.003	<0.0005	<0.0005	<0.0005	<0.0005	0.0067	0.0012	0.0161	0.0281	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0026	<0.002	<0.0005	<0.0005	<0.0005	0.0027	0.0005	0.0174	0.0088	0.006	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0195	0.0049	0.0283	0.0644
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	0.01	0.22	0.26
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
MW215	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0677	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0163	0.0014	0.0477	0.121
	13/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0074	<0.002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	0.0076	<0.0005	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0007	0.0085	0.0197
	7/05/2019	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0923	<0.002	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0307	<0.0005	0.0164	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0135	0.0036	0.0442	0.158
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0159	<0.002	<0.0005	<0.0005	<0.0005	0.0117	<0.0005	<0.0005	0.0117	<0.0005	0.0047	<0.0005	<0.0005	<0.0005	<0.0005	0.0025	<0.0005	0.0142	0.0348	
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.03	<0.01	0.02	0.12
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.19
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.05
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.2
MW216	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	4/09/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.22	0.02	0.27	0.33	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.19	0.01	0.57	0.64	
	4/12/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0203	<0.002	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	0.0032	0.0327	0.0011	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	0.0965	0.0025	0.129	0.163	
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0258	0.004	<0.0005	0.0015	<0.0005	0.0011	0.0066	0.0127	0.14	0.0022	0.0076	<0.0005	<0.0005	<0.0005	<0.0005	0.283	0.0043	0.423	0.489	
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05																					

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														0.13	220		
PFAS NEMP 2020 Drinking Water																																0.56	0.07

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
MW219	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0056	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0098	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.014	0.0213	
	4/12/2018	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0077	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0134	0.0011	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.0176	0.0307	
	7/05/2019	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.007	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0108	<0.0005	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.015	0.028	
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0128	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	0.0208	<0.0005	0.0027	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0153	<0.0005	0.0361	0.0529
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.03	0.08		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05		
MW220	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03			
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0202	<0.002	<0.0005	<0.0005	<0.0005	0.0053	0.0028	0.0153	0.0354	0.0168	0.0084	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0422	0.0049	0.0776	0.151		
	7/05/2019	<0.001	0.008	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0303	<0.002	<0.0005	<0.0005	<0.0005	0.0196	0.0058	0.0567	0.104	0.012	0.0287	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0582	0.0108	0.162	0.335		
	21/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.1	0.14	0.12	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.02	0.22	0.68		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.07	0.09		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW221	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.64	<0.2	<0.05	<0.05	<0.05	0.15	0.89	5.12	0.15	0.46	<0.12	<0.05	<0.05	<0.05	<0.05	1.72	0.08	6.84	9.21			
	13/12/2018	<0.002	0.041	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	1.89	<0.002	<0.0020	<0.0020	<0.0020	0.184	0.274	2.26	7.66	0.347	0.834	<0.0050	<0.0020	<0.0020	0.0028	2.71	0.234	10.4	16.4			
	8/05/2019	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.262	0.012	<0.0005	<0.0005	<0.0005	0.024	0.0573	0.381	1.27	0.0591	0.226	<0.0005	<0.0005	<0.0005	<0.0005	0.497	0.061	1.77	2.86			
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	<0.1	<0.02	<0.02	<0.02	0.08	0.11	0.84	3.23	0.16	0.46	<0.05	<0.02	<0.02	<0.02	1.27	0.12	4.5	6.89			
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.48	1.84	0.1	0.29	<0.05	<0.02	<0.02	<0.02	1.06	0.08	2.9	4.33			
	16/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	<0.2	<0.02	<0.02	<0.02	0.09	0.17	0.94	3.23	0.17	0.48	<0.05	<0.02	<0.02	<0.02	2.27	0.14	5.5	8.11			
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.44	1.78	0.08	0.28	<0.05	<0.02	<0.02	<0.02	1.08	0.07	2.86	4.18			
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	<0.2	<0.02	<0.02	<0.02	0.07	0.12	0.68	2.36	0.12	0.42	<0.05	<0.02	<0.02	<0.02	1.39	0.09	3.75	5.71			
	20/04/2022	<0.05	0.62	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	<0.04	0.06	0.36	1.22	0.07	0.26	<0.05	<0.02	<0.02	<0.02	0.73	<0.06	1.95	3.7			
	MW225	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.21	0.01	0.32	0.37		
4/09/2017		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.2	0.01	0.27	0.32			
10/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0																					

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
																												0.13	220		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
MW238	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0193	0.029	0.0028	<0.0005	<0.0005	0.0089	0.0025	0.0085	0.027	0.018	0.0025	<0.0005	<0.0005	<0.0005	0.001	0.062	0.0386	0.089	0.22		
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0113	0.009	0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0036	0.0044	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.014	0.0023	0.0176	0.0451		
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.05		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	0.13	<0.02	0.22	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.02	0.05	0.49			
MW239	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	0.01	0.06	0.07			
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0346	<0.002	0.0022	<0.0005	<0.0005	0.0084	0.0026	0.0394	0.137	0.0033	0.0139	<0.0005	<0.0005	<0.0005	0.0029	0.285	0.0183	0.422	0.554			
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0299	0.004	0.0009	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0749	<0.0005	0.0143	<0.0005	<0.0005	<0.0005	0.0032	0.0234	0.0141	0.0983	0.167			
	8/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.05	<0.1	<0.02	-	-	-	<0.02	0.02	0.1	-	<0.02	-	-	<0.02	0.04	0.02	0.14	0.23				
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01			
14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.1				
MW240	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.09			
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0222	0.006	<0.0005	<0.0005	<0.0005	0.0066	0.0119	0.0332	0.091	0.012	0.0092	<0.0005	<0.0005	<0.0005	0.0019	0.267	0.0203	0.358	0.485			
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0098	0.003	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.0005	0.02	0.0023	0.0018	<0.0005	<0.0005	<0.0005	0.0012	0.0397	0.003	0.06	0.06			
	8/05/2019	-	-	-	-	-	-	-	-	-	-	-	<0.02	<0.1	-	-	-	-	<0.02	-	0.0214	<0.02	<0.02	-	-	<0.02	0.04	<0.01	0.0611	0.0836				
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.11		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.04	0.04			
14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.1				
MW252	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0042	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0063	<0.0005	0.0114	0.0156	
	3/12/2018	<0.001	0.012	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0041	<0.0005	0.0075	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0469	<0.0005	0.0544	0.0758
	6/05/2019	<0.001	0.02	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0079	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0358	<0.0005	0.0326	<0.0005	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0027	<0.0005	0.0385	0.0676	
	22/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0046	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0022	<0.0005	0.035	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0151	<0.0005	0.0501	0.0569	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02</																					

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS		
MW257	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.02	0.1	0.16	
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0267	<0.002	<0.0005	<0.0005	<0.0005	0.0018	0.0019	0.0015	0.0292	0.0023	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0622	0.0034	0.0914	0.132	
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0254	<0.002	<0.0005	<0.0005	<0.0005	0.0057	0.0012	0.0051	0.0208	0.0009	0.0025	<0.0005	<0.0005	<0.0005	0.003	0.033	0.0094	0.0538	0.107		
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.04	
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.06	
MW258	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05		
	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.52	0.04	0.64	0.72	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.26	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.23	0.02	0.49	0.55	
	7/05/2019	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0305	<0.002	0.0009	<0.0005	<0.0005	0.0055	0.0021	0.003	0.0307	<0.0005	0.007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0713	0.0105	0.102	0.164	
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.16	0.16
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.09	<0.01	0.13	0.15
MW259	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.1	0.13	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.09	0.13	
	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.02	0.12	0.18	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.25	0.28	
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0397	<0.002	0.0012	<0.0005	<0.0005	0.0024	0.0024	0.0122	0.0532	0.003	0.0074	<0.0005	<0.0005	<0.0005	<0.0005	0.0036	0.115	0.0086	0.168	0.249	
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.12	0.16	
MW260	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.11	0.14	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.01	
	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.01	0.13	0.16	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.1	<0.01	0.24	0.24	
	7/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
MW261	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01	
	11/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0117	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0143	0.0025	0.0391	0.055
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0098	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0186	0.0027	0.0446	0.0591	
	21/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.08	0.15	
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
MW262																																	

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTtDA	PFUnDA	PFNA	PFOS	PFCA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW467	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
	20/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	6/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	20/04/2020	<0.05	0.19	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	24/09/2020	<0.05	0.33	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.45	<0.02	<0.04	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.14	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
MW471	6/11/2015	-	<0.01	<0.01	-	<0.005	-	<0.1	<0.002	<0.05	-	<0.1	0.007	-	<0.002	-	<0.005	<0.002	-	<0.002	0.033	-	-	<0.05	<0.005	<0.005	<0.002	0.074	<0.002	0.107	0.074		
	28/05/2016	-	<0.01	<0.01	-	<0.005	-	<0.1	<0.002	<0.05	-	<0.1	0.045	-	<0.002	-	<0.005	0.005	-	0.059	0.266	-	-	<0.05	<0.005	<0.005	<0.002	0.274	0.014	0.54	0.288		
	23/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.11	0.11		
	23/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.04	0.04		
	28/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.16	0.16		
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.4	<0.01	0.49	0.52		
	19/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.11	0.11		

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																												0.13	220		
NHMRC - Recreational Use - Surface Water																												10	2		
Location ID	Sample Date																														
Mundy Creek Catchment - On Base																															
SW001	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.11	1	<0.02	<0.02	<0.02	1.03	2.65	7.26	22.8	1.98	4.69	<0.05	<0.02	<0.02	0.22	59.9	2.96	82.7	108
	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.99	0.9	<0.02	<0.02	<0.02	1.03	1.24	6.17	19.1	1.32	3.68	<0.05	<0.02	<0.02	0.13	48.1	1.78	67.2	86.4
	19/04/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7.02	2.1	<0.02	0.04	<0.02	2.48	2.11	14.3	34.8	2.81	6.44	<0.05	<0.02	<0.02	0.21	50.6	4.66	85.4	128
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.22	0.312	<0.0200	<0.0200	<0.0200	0.584	0.6	3.35	8.83	0.644	1.27	<0.0500	<0.0200	<0.0200	0.078	14.6	1.37	23.4	32.8
	2/05/2019	<0.001	0.011	0.003	<0.001	<0.001	<0.0005	<0.001	0.0065	<0.001	<0.0005	<0.001	1.17	0.13	0.0018	0.044	<0.0005	0.466	0.594	2.54	5.31	0.507	1.63	<0.0005	<0.0005	<0.0005	0.0406	11.5	1.03	16.8	25
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.3	<0.02	<0.02	<0.02	0.25	0.2	1.6	3.65	0.36	0.53	<0.05	<0.02	<0.02	0.03	5.89	0.44	9.54	13.8
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.14	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.47	0.02	0.61	0.76
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.58	1.79	0.2	0.26	<0.05	<0.02	<0.02	<0.02	3.22	0.2	5.01	6.93
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.3	<0.02	<0.02	<0.02	0.08	0.08	0.5	1.39	0.18	0.19	<0.05	<0.02	<0.02	<0.02	2.53	0.15	3.92	5.63
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.45	3.85	0.27	0.62	<0.05	<0.02	<0.02	<0.02	7.33	0.31	11.2	15.1
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.29	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.74	2.15	0.11	0.31	<0.09	<0.04	<0.04	<0.04	4.66	0.19	6.81	8.7
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37	3.42
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.01	0.2	<0.02	<0.04	<0.02	0.32	0.54	2.46	5.44	0.39	1.15	<0.05	<0.02	<0.02	0.05	10.4	0.68	15.8	22.6
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	1.77	0.5	<0.04	<0.04	<0.04	0.66	0.65	4	10.1	0.79	1.99	<0.1	<0.04	<0.04	0.09	18.7	1.38	28.8	40.6	
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0969	<0.002	0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153	1.68		
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.174	0.0738	0.891	1.7	
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.151	1.73	2.74
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.21	<0.01	0.14	0.17	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48	0.91
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	11.7	1.18	27.7	45.7
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.1	<0.50	<0.10	<0.10	<0.10	<0.10	0.14	0.69	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.79	<0.10	1.48	1.72	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.36	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.01	0.28	0.28	
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.05	0.38	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.01	1.19	1.34	
SW121	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.288	<0.020	<0.0200	<0.0200	<0.0200	0.026	0.054	0.244	1.16	0.07	0.182	<0.0500	<0.0200	<0.0200	<0.0200	1.15	0.062	2.31	3.24
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.29	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.49	0.02	0.78	1.04
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.44	<0.08	0.09	<0.05	<0.02	<0.02	<0.02	0.32	<0.01	0.76	1.08
SW132	1/03/2018	<0.002	0.193	0.042	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	1.75	0.148	<0.0020	<0.0020	<0.0020	1.13	0.97	6.46	14.4	1.22	2.19	<0.0050	<0.0020	<0.0020	0.0412	27.3	2.88	41.7	58.7	
	2/03/2018	<0.002	0.112	0.034	<0.002	<0.005	<0.0020	<0.005	0.013	<0.005	<0.0020	2.16	0.196	<0.0020	0.0026	<0.0020	1.32	1.2	6.22	15	1.43	2.62	<0.0050	<0.0020	<0.0020	0.066	27.1	2.63	42.1	60.1	
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005																									

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW117	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	1	<0.05	<0.05	<0.05	0.75	0.64	3.63	10.8	<0.05	2.04	<0.12	<0.05	<0.05	<0.05	0.16	14.1	1.07	24.9	36.2
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.16	1	<0.02	<0.02	<0.02	1.11	0.93	6.17	13.9	1.25	2.96	<0.05	<0.02	<0.02	0.09	18.4	1.88	32.3	50.8	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.73	0.9	<0.02	<0.02	<0.02	0.7	<0.02	5.57	<0.02	1.21	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.44	<0.01	9.55	
	13/12/2018	<0.002	0.027	0.033	<0.002	<0.005	<0.0020	<0.005	0.003	<0.005	<0.0020	<0.005	0.346	<0.002	0.0052	0.0068	<0.0020	0.111	0.0878	0.52	1.44	0.164	0.198	<0.0050	<0.0020	<0.0020	0.0168	1.81	0.16	3.25	4.93	
	8/05/2019	<0.001	0.014	0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.29	0.252	0.0016	0.0258	<0.0005	1.11	1.05	7.73	16.4	1.37	3.07	<0.0005	<0.0005	<0.0005	0.0599	14.1	2.06	30.5	50.5	
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	0.1	<0.02	<0.02	<0.02	0.06	0.07	0.4	1.16	0.08	0.16	<0.05	<0.02	<0.02	<0.02	2.08	0.11	3.24	4.4	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	1.04	0.3	<0.05	<0.05	<0.05	0.37	0.28	2.17	4.93	0.42	1	<0.13	<0.05	<0.05	<0.05	6.67	0.7	11.6	17.9	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.2	<0.02	<0.02	<0.02	0.04	0.08	0.32	0.95	<0.08	0.12	<0.05	<0.02	<0.02	<0.02	2.45	0.1	3.4	4.19	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.67	0.3	<0.02	<0.02	<0.02	0.3	0.28	1.66	3.76	0.34	0.7	<0.05	<0.02	<0.02	0.04	8.57	0.77	12.3	17.4	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.84	0.2	<0.02	<0.04	<0.02	0.24	0.37	1.95	4.07	0.32	0.88	<0.05	<0.02	<0.02	0.04	7	0.53	11.1	16.4	
11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	0.2	<0.02	<0.02	<0.02	0.2	0.21	1.44	3.12	0.3	0.55	<0.05	<0.02	<0.02	<0.02	4.32	0.41	7.44	11.4		
SW118	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.46	0.3	1.77	4.85	0.4	1.14	<0.05	<0.02	<0.02	0.04	5.21	0.7	10.1	16.1	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	0.32	0.22	1.37	6.14	0.3	0.52	<0.05	<0.02	<0.02	<0.02	7.04	0.5	13.2	17	
	13/12/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0507	<0.002	0.0009	0.0024	<0.0005	0.0332	0.0056	0.0358	0.155	0.0268	0.0188	<0.0005	<0.0005	<0.0005	0.0012	0.204	0.0108	0.359	0.546	
	8/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.22	0.4	<0.02	<0.02	<0.02	0.45	0.33	2.91	6.02	0.55	1.22	<0.05	<0.02	<0.02	0.03	7.46	0.86	13.5	21.4	
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.34	0.01	0.42	0.46	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	0.1	<0.02	<0.02	<0.02	0.09	0.1	0.6	1.51	0.1	0.28	<0.05	<0.02	<0.02	<0.02	3.11	0.2	4.62	6.39	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.2	<0.02	<0.02	<0.02	0.06	0.1	0.44	1.28	0.08	0.18	<0.05	<0.02	<0.02	<0.02	2.62	0.13	3.9	5.07	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.3	0.5	<0.05	<0.05	<0.05	0.58	0.44	3.12	7.16	0.67	1.3	<0.12	<0.05	<0.05	<0.05	10	1.2	17.2	26.3	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.49	0.2	<0.02	<0.02	<0.02	0.14	0.19	1.04	2.62	0.18	0.48	<0.05	<0.02	<0.02	0.02	3.7	0.3	6.32	9.36	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.56	0.1	<0.02	<0.02	<0.02	0.19	0.15	1.17	2.75	0.25	0.49	<0.06	<0.02	<0.02	<0.02	2.93	0.31	5.68	8.9	
SW119	20/04/2018	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.93	0.496	0.0009	0.0249	<0.0005	1.56	0.87	10.4	21.1	1.62	3.85	<0.0005	<0.0005	<0.0005	0.0622	14.7	2.68	35.8	61.3	
	13/12/2018	<0.002	0.012	0.019	<0.002	<0.005	<0.0020	<0.005	0.0052	<0.005	<0.0020	<0.005	0.604	0.082	0.0048	0.0036	<0.0020	0.208	0.243	0.972	3.15	0.291	0.418	<0.0050	<0.0020	<0.0020	0.0654	4.57	0.385	7.72	11	
	8/05/2019	<0.001	0.03	0.005	<0.001	<0.001	<0.0005	0.001	0.0079	<0.001	<0.0005	<0.001	5.25	0.417	0.003	0.0494	<0.0005	1.56	1.5	12.7	25	2.28	5.55	<0.0005	<0.0005	<0.0005	0.16	36.1	3.58	61.1	94.2	
	24/10/2019	<0.001	0.021	0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.341	0.059	0.0006	0.0029	<0.0005	0.138	0.125	0.883	2.27	0.184	0.413	<0.0005	<0.0005	<0.0005	0.0029	2.2	0.193	4.47	6.84	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.84	<0.2	<0.05	<0.05	<0.05	0.28	0.32	1.82	5.19	0.4	0.89	<0.13	<0.05	<0.05	<0.05	5.41	0.64	10.6	15.8	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.3	<0.02	<0.02	<0.02	0.11	0.18	0.84	2.95	0.15	0.42	<0.05	<0.02	<0.02	<0.02	6.02	0.21	8.97	11.2	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.26	0.03	0.05	<0.05	<0.02	<0.02	<0.02	0.47	0.03	0.73	1.03	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.12	0.3	<0.02	<0.02	<0.02	0.29	0.42	2.42	5.08	0.4	1.2	<0.05	<0.02	<0.02	0.03	5.69	0.49	10.8	17.4	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.09	<0.2	<0.05	<0.05	<0.05	0.34	0.34	2.31	5.35	0.49	0.91	<0.12	<0.05	<0.05						

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																	
NHMRC - Recreational Use - Surface Water																																	
0.13 220																																	
10 2																																	
Location ID	Sample Date																																
SW014	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.12	0.12		
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.031	0.0069	0.065	0.131
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0097	<0.0005	0.0085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0018	<0.0003	0.0241
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0087	0.0033	0.0178	0.0527
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.0547	0.0055	0.0983	0.15
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.0131	0.287	0.452
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.01	0.08	0.18		
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.03	<0.01	0.05	0.05		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	0.05	<0.01	0.08	0.08		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	0.02	<0.01	0.04	0.04			
	SW016	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.22	0.1	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.04	0.5	0.88	
		17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0211	<0.002	0.0006	<0.0005	<0.0005	0.012	0.003	0.0241	0.0769	0.0119	0.0092	<0.0005	<0.0005	<0.0005	0.0005	0.0885	0.0062	0.165	0.254	
17/04/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0241	<0.0005	0.0105	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0023	<0.0003	0.0427		
17/12/2018		<0.002	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.002	<0.0005	<0.002	<0.0005	<0.002	0.007	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.0282	0.0056	0.0022	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.0324	0.0028	0.0606	0.0842		
29/04/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0503	<0.002	<0.0005	<0.0005	<0.0005	0.0613	0.0127	0.0579	0.136	0.009	0.0249	<0.0005	<0.0005	<0.0005	0.0007	0.101	0.0141	0.237	0.468		
29/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	0.34	0.4		
30/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	0.12	<0.01	0.16	0.24			
31/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.05	<0.02	<0.02	0.1	<0.01	0.13	0.15			
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.49	1.96	0.05	0.22	<0.05	<0.02	<0.02	0.48	0.08	2.44	3.64			
7/09/2020		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.52	<0.2	<0.05	<0.05	<0.05	1.03	1.4	0.32	0.24	<0.12	<0.05	<0.05	<0.05	<0.05	1.54	0.1	2.94	5.27			
22/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.51	0.19	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	0.61	0.03	0.95	2.43			
7/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.93	0.3	<0.02	<0.02	<0.02	0.11	<0.02	1.56	0.93	0.38	0.4	<0.05	<0.02	<0.02	0.09	0.02	1.02	4.72			
13/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	0.15	0.47	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.24	0.03	0.71	1.06				
SW019	14/08/2017	<0.05	0.48	2.19	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	5.37	2.7	0.13	0.04	<0.02	1.53	2.56	14.8	33.1	5	5.61	<0.05	<0.02	<0.02	0.74	35.6	4.88	68.7	115		
	14/08/2017	<0.05	1.09	1.19	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	3.86	2.3	0.1	<0.02	<0.02	1.53	1.03	11	26.8	3.3	4.26	<0.05	<0.02	<0.02	0.51	31.8	3	58.6	91.8		
	19/04/2018	<0.05	0.13	0.82	<0.05	<0.05	<0.02	<0.05	0.19	<0.05	<0.02	<0.05	12	3.6	0.08	0.04	<0.02	2.8	5.95	23.9	69	5.3	11	<0.05	<0.02	<0.02	0.31	62	4.4	131	202		
	19/12/2018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.578	<0.020	0.034	0.007	<0.002	0.224	0.324	1.15	4.07	0.298	0.484	<0.005	<0.002	0.004	0.082	6.26	0.546	11.4	16.3		
	19/12/2018	-	0.168	1	-	-	-	-	0.068	-	-	-	0.904	2.21	0.097	0.026	-	4.72	0.336	11.8	5.6	4.9	0.759	-	-	<0.0200	0.456	7.28	2.74	11.9	40.8		
	1/05/2019	<0.001	<0.005	0.011	<0.001	<0.001	<0.0005	<0.001	<0.002	<0.001	<0.0005	<0.001	2.31	0.225	0.0093	<0.002	0.0007	0.532	0.783	4.16	12.2	1.1	2.31	<0.0005	<0.0005	0.002	0.0338	10.5	0.787	23.2	38.8		
	1/05/2019	-	0.011	0.139	-	-	-	-	0.037	-	-	-	2.48	1.83	0.014	0.011	<0.002	1.15	1.35	9.03	12.7	2.31	2.43	-	-	-	0.088	13.4	0.932	25.6	44.1		
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	0.1	<0.02	<0.02	<0.02	<0.02	0.17	0.26	1.32	0.07	0.11	<0.05	<0.02	<0.02	4.72	0.08	6.04	6.94			
	30/01/2020	<0.05	<0.05	0.06	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12																							

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.3	0.64	25.3	34.1
	1/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	1.57	0.0652	2.44	3.03
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.038	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	8.25
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.143	0.02	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0026	3.17	0.107	4.71	5.67
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	<0.0100	7.02	0.307	9.89	13.2
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	<0.0100	7.33	0.345	10.9	14.6
	4/03/2018	<0.020	<0.020	0.024	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.72	0.35	<0.0200	<0.0200	<0.0200	0.466	1.24	3.82	15.5	0.74	1.91	<0.0500	<0.0200	<0.0200	<0.0200	19.9	1.04	35.4	47.7
	4/03/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.78	0.198	<0.0200	<0.0200	<0.0200	0.506	1.34	3.99	16.5	0.806	1.86	<0.0500	<0.0200	<0.0200	<0.0200	20.3	0.984	36.8	49.3
	5/03/2018	<0.010	<0.010	0.027	<0.010	<0.025	<0.0100	<0.025	0.038	<0.025	<0.0100	<0.025	2.2	1.12	<0.0100	<0.0100	<0.0100	0.513	1.33	5.26	16.7	1.17	2.09	<0.0250	<0.0100	<0.0100	0.021	20.4	1.28	37.1	52.1
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.025	<0.025	<0.0100	<0.025	6.33	1.53	<0.0100	<0.0100	<0.0100	0.851	2.51	7.35	23.4	3.18	5.06	<0.0250	<0.0100	<0.0100	0.039	20.5	2.71	43.9	73.5
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.53	0.8	<0.02	<0.02	<0.02	0.48	1.09	4.28	16.6	1.01	2.66	<0.05	<0.02	<0.02	0.03	18.7	1.06	35.6	57.4
	18/04/2018	-	-	-	-	-	-	-	<0.10	-	-	-	2.96	1.8	-	-	-	1.58	1.6	14.5	16.9	3.79	2.67	-	-	-	0.11	25.9	1.47	42.5	65.1
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.88	0.8	<0.02	<0.02	<0.02	0.34	<0.02	3.93	<0.02	0.99	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	0.32	<0.01	7.32
	17/12/2018	<0.002	<0.002	0.007	<0.002	<0.005	<0.0020	<0.005	0.006	<0.005	<0.0020	<0.005	0.891	0.114	<0.0020	0.0028	<0.0020	0.118	0.348	1.28	4.95	0.353	0.545	<0.0050	<0.0020	<0.0020	0.006	3.97	0.271	8.92	12.9
	1/05/2019	<0.001	0.012	0.034	<0.001	<0.001	<0.0005	<0.001	0.0219	<0.001	<0.0005	<0.001	2.97	0.113	0.0075	0.0109	<0.0005	0.32	1.16	4.9	1.63	0.803	2.18	<0.0005	<0.0005	0.0006	0.0296	17.2	1.01	18.8	32.4
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	1.49	0.6	<0.02	<0.02	<0.02	0.36	0.87	3.46	11.5	0.8	1.37	<0.05	<0.02	<0.02	0.04	24.7	0.88	36.2	46.1
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	0.1	<0.02	<0.02	<0.02	0.02	0.04	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.78	0.01	0.96	1.15
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	0.1	0.12	0.65	0.04	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	3.06	0.05	3.71	4.15
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.17	<0.2	<0.05	<0.05	<0.05	0.21	0.28	1.88	<0.05	0.18	<0.12	<0.05	<0.02	<0.05	<0.05	4.44	0.12	6.32	7.28
	29/04/2020	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	1.86	0.7	<0.02	0.03	<0.02	0.39	0.92	3.91	9.33	1.1	1.74	<0.05	<0.02	<0.02	0.03	12.6	0.66	21.9	33.4
10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.5	<0.2	<0.04	<0.04	<0.04	0.14	0.42	1.22	3.99	0.33	0.44	<0.11	<0.04	<0.04	<0.04	27.3	0.37	31.3	34.7	
22/04/2021	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.29	0.3	<0.02	<0.02	<0.02	0.31	0.75	2.26	6.76	0.54	1.58	<0.05	<0.02	<0.02	<0.02	6.42	0.49	13.2	20.8	
7/10/2021	<0.05	1.13	0.07	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	1.4	0.4	0.03	<0.32	<0.02	0.33	1.16	3.12	8.24	0.71	1.44	<0.05	<0.02	<0.02	0.08	39.8	0.82	48	58.8	
21/04/2022	<0.1	0.23	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.81	<0.5	<0.1	<0.1	<0.1	0.48	0.75	3.17	10.3	1.07	1.64	<0.25	<0.1	<0.1	<0.1	14.8	0.7	25.1	35	
SW125	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.12	0.11	1.08	3.14	0.2	0.52	<0.05	<0.02	<0.02	<0.02	2.07	0.18	5.21	7.78
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.1	<0.02	<0.02	<0.02	0.11	0.19	1.09	3.62	0.19	0.39	<0.05	<0.02	<0.02	<0.02	3.07	0.17	6.69	9.3
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.96	<0.02	0.18	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.03	<0.01	1.4
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0378	<0.002	<0.0020	<0.0020	<0.0020	0.0066	0.0198	0.0732	0.326	0.0168	0.0262	<0.0050	<0.0020	<0.0020	<0.0020	0.565	0.0198	0.891	1.09
	1/05/2019	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0076	<0.001	<0.0005	<0.001	1.02	0.051	0.0019	0.0027	<0.0005	0.246	0.56	3.43	9.73	0.548	1.07	<0.0005	<0.0005	<0.0005	0.0125	9.98	0.594	19.7	27.3
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.16	0.4	<0.02	<0.02	<0.02														

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW131	2/03/2018	<0.002	0.008	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.172	0.12	<0.0020	<0.0020	<0.0020	0.0454	0.091	0.411	1.72	0.0236	0.172	<0.0050	<0.0020	<0.0020	0.0034	3.8	0.122	5.52	6.69	
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.163	0.041	<0.0020	<0.0020	<0.0020	0.0436	0.085	0.398	1.63	0.0822	0.159	<0.0050	<0.0020	<0.0020	0.003	4.07	0.116	5.7	6.8	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	0.106	0.078	<0.0100	<0.0100	<0.0100	0.033	0.092	0.439	1.04	0.075	0.097	<0.0250	<0.0100	<0.0100	<0.0100	3.5	0.111	4.54	5.57
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	0.101	0.076	<0.0100	<0.0100	<0.0100	0.039	0.088	0.454	1.05	0.062	0.093	<0.0250	<0.0100	<0.0100	<0.0100	3.16	0.113	4.21	5.24
	4/03/2018	<0.002	0.019	<0.002	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.208	0.023	<0.0020	0.0098	<0.0020	0.0536	0.139	0.486	1.9	0.113	0.168	<0.0050	<0.0020	<0.0020	<0.0020	4.98	0.142	6.88	8.25	
	4/03/2018	<0.002	0.013	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	0.196	0.02	<0.0020	0.0078	<0.0020	0.0542	0.131	0.476	2.14	0.11	0.149	<0.0050	<0.0020	<0.0020	<0.0020	5.02	0.133	7.16	8.45
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	0.123	0.267	<0.0100	<0.0100	<0.0100	0.053	0.115	0.527	1.2	0.064	0.12	<0.0250	<0.0100	<0.0100	<0.0100	3.89	0.125	5.09	6.48
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	0.245	0.095	<0.0100	<0.0100	<0.0100	0.048	0.114	0.475	1.7	0.111	0.213	<0.0250	<0.0100	<0.0100	<0.0100	4.5	0.176	6.2	7.68
	19/04/2018	<0.001	0.014	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0022	<0.001	<0.0005	<0.001	<0.0005	0.219	0.017	0.001	0.0068	<0.0005	0.0875	0.149	0.714	2.28	0.116	0.234	<0.0005	<0.0005	<0.0005	0.0028	2.71	0.142	4.99	6.7
	19/04/2018	<0.001	0.009	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.107	0.023	<0.0005	<0.0005	<0.0005	0.0611	0.002	0.752	<0.0005	0.128	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.077	0.001	1.16
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	0.064	<0.020	<0.0200	<0.0200	<0.0200	0.032	0.106	0.42	0.03	0.058	<0.0500	<0.0200	<0.0200	<0.0200	1.03	0.03	1.45	1.77	
	29/04/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0013	<0.001	<0.0005	<0.001	<0.0005	0.125	0.045	0.0007	0.0034	<0.0005	0.034	0.0662	0.348	1.07	0.0582	0.125	<0.0005	<0.0005	<0.0005	0.002	1.95	0.0889	3.02	3.92
	18/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0019	<0.001	<0.0005	<0.001	<0.0005	0.231	0.034	0.0009	0.0112	<0.0005	0.0503	0.0766	0.447	1.56	0.101	0.213	<0.0005	<0.0005	<0.0005	0.0032	2.23	0.0918	3.79	5.05
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.46	0.2	<0.02	<0.02	<0.02	0.13	0.33	1.24	4.52	0.34	0.48	<0.05	<0.02	<0.02	<0.02	7.41	0.28	11.9	15.4
30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.09	<0.1	<0.02	<0.02	<0.02	0.03	0.1	0.38	0.09	0.04	<0.05	<0.02	<0.02	<0.02	0.94	0.02	1.32	1.69		
31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.07	0.38	1.24	0.11	0.15	<0.05	<0.02	<0.02	<0.02	2.62	0.07	3.86	4.87	
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.19	1.18	0.03	0.1	<0.06	<0.02	<0.02	<0.02	2.66	0.05	3.84	4.42	
9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.3	<0.1	<0.02	<0.02	<0.02	0.06	0.18	0.77	2.58	0.15	0.33	<0.05	<0.02	<0.02	<0.02	4.02	0.16	6.6	8.55	
16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.28	0.2	<0.02	<0.02	<0.02	0.09	0.12	0.91	2.52	0.18	0.32	<0.05	<0.02	<0.02	<0.02	2.68	0.16	5.2	7.46	
7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.26	0.1	<0.02	<0.02	<0.02	0.06	0.12	0.59	1.99	0.11	0.27	<0.05	<0.02	<0.02	<0.02	2.29	0.11	4.28	5.9	
13/04/2022	<0.05	0.027	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.11	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.28	0.9	0.06	0.1	<0.05	<0.02	<0.02	<0.02	1.53	0.06	2.43	3.4	
Bohle River/Louisa Creek/Town Common Catchment - Off Base																																
SW017	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.02	0.24	0.29	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.21	0.23	
	11/12/2018	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0113	<0.002	0.0007	<0.0005	<0.0005	0.0048	<0.0005	0.0045	0.0088	0.0023	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0099	0.0033	0.0187	0.0533
	9/05/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0188	<0.002	0.0017	<0.0005	<0.0005	0.0162	0.003	0.0248	0.0979	0.0127	0.0128	<0.0005	<0.0005	<0.0005	0.0018	0.075	0.0155	0.173	0.285
	24/10/2019	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0272	<0.002	0.0018	<0.0005	<0.0005	0.0119	0.0041	0.0325	0.136	0.0183	0.0129	<0.0005	<0.0005	<0.0005	0.0021	0.116	0.0256	0.252	0.392
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	0.01	0.18	0.21	
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.1	<0.02	<0.02	<0							

Table T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMRC - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW120	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.03	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.04	0.26	0.38	
	20/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.15	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.04	0.25	0.37	
	12/12/2018	<0.001	0.037	0.008	<0.001	<0.001	<0.0005	<0.001	<0.0005	0.005	<0.001	0.0023	<0.001	0.0243	<0.002	0.0027	<0.0005	<0.0005	0.0122	0.0013	0.0099	0.0265	0.0115	0.0016	<0.0005	<0.0005	<0.0005	0.002	0.0705	0.0139	0.097	0.229
	24/10/2019	<0.001	0.005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	<0.002	0.0057	<0.0005	<0.0005	0.0139	0.0039	0.0354	0.141	0.0225	0.011	<0.0005	<0.0005	0.0008	0.0023	0.191	0.0331	0.332	0.489	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.01	0.21	0.22	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.21	0.26
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.28	0.41
6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.05	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.03	0.26	0.43	
11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.03	0.27	0.39	
SW127	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.11	0.11	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0207	0.004	0.0007	<0.0005	<0.0005	0.0029	0.0008	0.0079	0.0315	0.0062	0.0045	<0.0005	<0.0005	<0.0005	0.0009	0.0228	0.0052	0.0543	0.108	
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0096	<0.002	<0.0005	<0.0005	<0.0005	0.0038	<0.0005	0.0024	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0567	0.0022	0.0092	0.0272
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0221	<0.002	0.0008	<0.0005	<0.0005	0.0025	0.0025	0.0103	0.0542	<0.0005	0.0113	<0.0005	<0.0005	<0.0005	<0.0005	0.0011	0.0567	0.0057	0.111	0.167
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0577	<0.002	0.0005	<0.0005	<0.0005	0.0096	0.0048	0.0409	0.147	0.0223	0.0213	<0.0005	<0.0005	<0.0005	0.0008	0.0453	0.0159	0.192	0.366	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.01	0.05	0.06	
22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.08		
6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.06	0.06		
11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04		
SW129	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	0.01	0.1	0.11	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0032	<0.002	<0.0005	<0.0005	<0.0005	0.0016	<0.0005	0.0042	0.0028	0.0064	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0031	0.0051	0.0059	0.0264	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
SW201	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.02	<0.01	0.02	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0029	<0.002	<0.0005	<0.0005	<0.0005	0.0026	<0.0005	0.0008	<0.0005	0.0036	0.0022	0.0064	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.006	0.0039	0.0262
	12/12/2018																															

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																												0.13	220	
NHMRC - Recreational Use - Surface Water																												10	2	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW204	14/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	18/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0023	<0.002	<0.0005	<0.0005	<0.0005	0.0009	0.0006	0.0049	0.015	0.0014	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0082	0.0007	0.0232	0.0361
	5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0015	0.0015
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0044	0.005
	23/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0011	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.004	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0048	<0.0005	0.0088	0.0122
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.06	0.06
	28/09/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
5/05/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.24	<0.01	0.39	0.45	
SW205	15/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.1	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.24	0.02	0.4	0.47
	5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0102	<0.002	0.0007	<0.0005	<0.0005	0.0022	<0.0005	0.0134	0.026	0.0116	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.028	0.0054	0.054	0.101
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0346	0.027	0.0007	<0.0005	<0.0005	0.0074	0.0058	0.0555	0.164	0.0164	0.013	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.141	0.014	0.305	0.48
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.01	0.18	0.22
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.16
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.3	0.03	0.04	<0.05	<0.02	<0.02	<0.02	0.5	0.02	0.8	1.04
	28/09/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.12	0.14
5/05/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.19	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.35	0.02	0.54	0.65	
SW206	15/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	18/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	5/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.0036	0.0078	0.0036	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	0.0074	0.001	0.0152	0.0276	
	9/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0251	0.004	0.0008	<0.0005	<0.0005	0.0062	0.0071	0.0495	0.168	0.0134	0.0142	<0.0005	<0.0005	<0.0005	<0.0005	0.19	0.0112	0.358	0.49	
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.01	0.17	0.17
	8/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.06	0.06
	15/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<																								

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																	
NHMRC - Recreational Use - Surface Water																																	
Location ID	Sample Date																																
Three Mile Creek Catchment - On Base																																	
SW102	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.54	0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.38	<0.01	0.92	1.2	
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0226	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.0032	0.0078	0.0302	0.204	<0.0020	0.0196	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.325	0.0146	0.529	0.627
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.023	0.117	<0.0020	<0.0020	<0.0020	<0.0020	0.0034	0.0094	0.035	0.205	<0.0020	0.0224	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.364	0.0138	0.569	0.793
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.014	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.037	0.129	<0.0100	0.013	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.308	<0.0100	0.437	0.501
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.018	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.013	0.063	0.201	<0.0100	0.018	<0.0250	<0.0100	<0.0100	<0.0100	0.373	0.016	0.574	0.702
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0264	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.006	0.0164	0.0471	0.281	0.0098	0.0199	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.506	0.023	0.787	0.94
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0223	0.003	<0.0005	<0.0005	<0.0005	<0.0005	0.0051	0.0109	0.0416	0.198	0.0082	0.0169	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.468	0.0195	0.666	0.794
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.021	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	0.018	0.055	0.237	<0.0100	0.019	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.526	0.022	0.763	0.898	
	5/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0442	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0088	0.0169	0.0414	0.166	<0.0005	0.0292	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.656	0.0283	0.822	0.991
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.68	0.04	0.1	<0.05	<0.02	<0.02	<0.02	<0.02	0.7	0.02	1.38	1.82
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.19
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0282	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.0024	0.0096	0.0282	0.153	0.0112	0.0128	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.261	0.0064	0.414	0.513
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.295	<0.002	<0.0005	<0.0005	<0.0005	0.04	0.04	0.383	1.26	0.0919	0.234	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.471	0.0424	1.73	2.87	
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.36	0.2	-	-	-	0.0519	0.0408	0.69	1.44	0.12	0.25	-	-	-	-	-	0.67	0.05	2.11	3.86	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.2	<0.02	<0.02	<0.02	0.04	0.04	0.87	1.85	0.16	0.26	<0.05	<0.02	<0.02	<0.02	<0.02	0.62	0.06	2.47	4.48	
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.54	<0.3	-	-	-	0.05	0.05	0.9	1.97	0.18	0.32	-	-	-	-	-	0.71	0.07	2.68	4.94	
29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.16	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.42	<0.01	0.58	0.63	
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.2	<0.02	<0.02	<0.02	0.02	0.04	0.35	1.77	0.1	0.24	<0.05	<0.02	<0.02	<0.02	<0.02	0.78	0.04	2.55	3.61		
9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.29	1.6	<0.05	<0.05	<0.05	0.27	0.12	4.74	10.5	0.98	2.32	<0.12	<0.05	<0.05	<0.05	<0.05	1.19	0.24	11.7	26.2		
22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.1	<0.02	<0.02	<0.02	0.1	0.08	1.22	3.75	0.19	0.79	<0.05	<0.02	<0.02	<0.02	<0.02	0.9	0.09	4.65	8.02		
7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.27	0.3	<0.02	<0.02	<0.02	0.16	0.13	2.88	5.99	0.38	1.48	<0.05	<0.02	<0.02	<0.02	<0.02	1.18	0.18	7.17	15		
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	0.2	<0.02	<0.02	<0.02	0.05	0.08	0.72	2.91	0.13	0.52	<0.05	<0.02	<0.02	<0.02	<0.02	1.7	0.11	4.61	7.06		
Three Mile Creek Catchment - Off Base																																	
SW107	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.15	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	0.29	0.35	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0822	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613	0.983	
	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0766	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574	0.794	
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.10	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	0.43	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.58	0.88	
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.3	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	0.21	0.01	0.51	0.68	
12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.15	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.33	<0.04	0.16	<0.05	<0.02	<0.02	<0.02	<0.02	0.4	0.04	1.73	2.3		
SW210	17/07/2017	<0.05	<0.05	<0.																													

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	FOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	FOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD209	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0194	<0.0002	0.0206	0.0206	
	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0002	0.0019	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0227	<0.0002	0.0246	0.0261	
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.007	<0.0002	0.0079	0.0079	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0025	<0.0002	0.0029	0.0029	
	11/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0122	<0.0002	0.013	0.013	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0322	<0.0002	0.0331	0.0339	
Bohle River/Louisa Creek/Town Common Catchment - On Base																																
SD013	9/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0007	0.0092	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0569	0.0007	0.0661	0.069	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.001	0.006	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.103	0.0006	0.109	0.112	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0002	0.0021	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0247	<0.0002	0.0268	0.0277	
	30/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0016	0.0057	0.0003	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0222	0.0003	0.0279	0.0321	
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	0.004	<0.0002	0.001	<0.0002	0.0015	0.0026	0.0122	0.0371	0.0023	0.0056	<0.0005	<0.0002	<0.0002	<0.0002	0.0003	0.124	0.0034	0.161	0.198
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	0.0008	<0.001	<0.0002	<0.0002	0.0004	0.0008	0.0008	0.0059	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0451	0.0003	0.051	0.0541
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.001	0.0057	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0215	0.0004	0.0272	0.0305	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0009	<0.0002	<0.0002	0.001	0.0005	0.0075	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0638	0.0005	0.0713	0.0748	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0009	<0.0002	<0.0002	0.0009	0.0009	0.0077	<0.0004	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0342	0.0004	0.0419	0.0457	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	0.0006	<0.0002	<0.0002	<0.0002	0.001	0.0014	0.0093	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0594	0.0006	0.0687	0.0741	
	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0014	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0052	0.0003	0.0066	0.0077	
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0002	
	12/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0006	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.0034	0.0038
3/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0023	0.0023		
24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005		
28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
24/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005		
7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	0.001	0.001		
13/04/2022	<0.0005	<0.0005	<																													

Table T10: Historical Sediment PFAS Analytical Results

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	Sum of PFAS		
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHXS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHXS	Sum of PFAS	
SD125	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0017	0.0175	0.0185	0.124	0.0022	0.0064	<0.0025	<0.0010	<0.0010	<0.0010	0.818	0.0056	0.942	1	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0006	<0.0002	0.0002	0.0038	0.0032	0.0214	0.0003	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.147	0.0012	0.168	0.179	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	0.0004	<0.0002	0.0006	0.0028	0.0062	0.0202	0.0011	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.109	0.0017	0.129	0.145	
	15/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0048	<0.001	<0.0002	<0.0002	<0.0002	0.001	0.005	0.0159	0.0542	0.0027	0.005	<0.0005	<0.0002	<0.0002	<0.0002	0.224	0.0038	0.278	0.317	
	27/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0006	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0012	0.01	<0.0005	0.0006	<0.0012	<0.0005	<0.0005	<0.0005	0.088	<0.0005	0.098	0.101	
	7/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	<0.0005	0.001	<0.002	0.0047	<0.0002	<0.0002	0.0002	0.0014	0.0028	0.0109	0.0007	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.306	0.0007	0.317	0.331	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0005	<0.0002	0.0005	0.0019	0.0092	0.0248	0.0013	0.0025	<0.0005	<0.0002	<0.0002	<0.0002	0.0534	0.0013	0.0782	0.0971	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.0012	<0.0005	<0.0012	0.0019	<0.002	<0.0005	0.0022	<0.0005	<0.0005	0.0015	0.0041	0.0162	0.0005	0.0019	<0.0012	<0.0005	<0.0005	<0.0005	0.155	<0.0005	0.171	0.184	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0009	<0.002	0.0069	<0.0005	<0.0005	<0.0005	0.0031	0.0034	0.038	<0.0005	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.327	0.0013	0.365	0.382
	6/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0005	<0.0002	<0.0002	0.0009	0.0013	0.0101	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0699	0.0009	0.08	0.0848	
	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0034	<0.001	<0.0010	0.0038	<0.0010	<0.0010	0.0034	0.0064	0.0341	0.0016	0.0019	<0.0025	<0.0010	<0.0010	<0.0010	0.35	0.0028	0.384	0.407	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0011	<0.0002	<0.0002	0.0003	0.0008	0.003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0503	0.0004	0.0533	0.0559	
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0018	<0.0002	<0.0002	0.0006	0.0008	0.0052	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0602	0.0004	0.0654	0.0702	
17/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0036	<0.0002	0.004	0.004		
29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0011	<0.001	<0.0002	<0.0002	<0.0002	0.0008	0.0015	0.0038	0.0327	0.0006	0.0019	<0.0005	<0.0002	<0.0002	<0.0002	0.0344	0.0025	0.0671	0.0793		
9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0038	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0356	0.0003	0.0394	0.0418		
22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0017	<0.0005	<0.0002	<0.0005	0.0021	<0.001	<0.0002	0.0283	<0.0002	0.0004	0.0035	0.0039	0.0234	0.0018	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.492	0.0018	0.515	0.561		
7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0332	<0.0002	0.0347	0.0355		
13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0015	<0.001	0.007	0.0004	<0.0002	0.0002	0.0022	0.0023	0.018	0.0004	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.151	0.0017	0.169	0.186		
SD131	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0054	<0.0002	0.0061	0.0061		
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0188	<0.0002	0.0208	0.0211	
	29/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.0025	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0031	<0.0002	0.0056	0.0069	
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0002	<0.0002	<0.0002	0.0003	0.0011	0.0053	0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.026	0.0003	0.0313	0.0346	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0018	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0077	<0.0002	0.0095	0.0101	
	9/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0019	<0.005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.006	0.0044	0.0458	<0.001	0.0037	<0.0025	<0.001	<0.001	0.278	0.003	0.324	0.344	
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0015	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0181	<0.0002	0.0196	0.0203	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.000																			

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	██████████	Date:	27/05/2022
Client:	Department of Defence				
Site:	RAAF Townsville (0874)				
Matrix type:	Groundwater, surface water, sediment	Data verified by:	██████████	Date:	27/05/2022
No. of primary samples:	109 groundwater, 42 surface water, 42 sediment				
Laboratory:	ALS (Townsville), NMI (Sydney)	Project Manager:	██████████		
Lab reference:	ET2202209, ET 2202285, ET2202514, RN1350702				
Key Issues:	No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project. The data are considered appropriate for use to meet the project objectives.				
Field QA/QC					
Sampling personnel	Sampling was conducted by AECOM personnel from 11 April to 5 May 2022.				
Sampling Methodology	Groundwater, surface water and sediment samples were collected using appropriate methods as identified within the main body of the report. Hydrasleeves were installed in the well for a minimum of 24 hours prior to collection. Surface water samples were collected from immediately below the water surface. Sediment samples were collected from within the water body, where possible.				
Chain of Custody (COC)	COC documents completed as per AECOM procedures.				
Rinsate Blank	Rinsate blank samples were collected at a frequency of one per field staff per day of sampling (nine in total). Concentrations of all analytes tested were reported below the LOR for rinsate samples.				
Trip Blanks	Trip blank samples were submitted to the laboratory at a rate of one per batch of primary samples delivered to the laboratory (one in total). Concentrations were reported below the LOR for all analytes tested in the trip blank. Trip blanks were not submitted for batches where samples on private properties were collected.				
Eskies to Laboratory	A total of seven eskies of samples in three deliveries were submitted to ALS across the sampling event. One esky was submitted to NMI.				
Frequency of field QC	Field duplicates (inter-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples (four duplicates and triplicates for groundwater, one duplicate and triplicate for surface water and one duplicate and triplicate for sediment). The target frequency of 10% for field duplicates and triplicates was achieved for all matrices.				
Handling and preservation	Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 2.2°C and 5.3°C. All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.				
Equipment Calibration	Calibration of the water quality meter was conducted each day before sampling, see Appendix F .				

Laboratory QA/QC

Tests requested/reported

Samples were analysed and reported as requested on the COC

Holding time compliance

Samples were extracted and analysed within recommended holding times with the exception of moisture content testing on sediment samples collected between 11 and 13 April 2022 in batch ET2202209. The delay was due to the public holidays in April delaying the shipment of samples from Townsville to Brisbane. As moisture content is a physical analytical method and all PFAS analysis was completed within holding time, this does not affect the outcomes of the sampling program.

Laboratory Accreditation

The laboratory analysis was conducted by ALS Environmental Pty Ltd (Townsville) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.

Frequency of laboratory QC

The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision with the following exceptions:

- Moisture content in batch ET2202514 with an actual rate of 8.33% instead of 10%.. Moisture content is a physical analytical method, not a parameter used to assess against a guideline and therefore the reduced frequency of quality control samples does not affect the outcomes of the sampling program.
- The frequency of laboratory duplicates for PFAS in batch ET2202209 was 8% as opposed to an expected rate of 10% in accordance with internal ALS standards. This rate of analysis whilst lower than ALS standards meets NEPM 2013 requirements.

Method Blank

No method blank value outliers were reported.

Laboratory duplicate RPDs

Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples with the exception of :

- Perfluorohexane sulfonic acid (PFHxS) in batch ET2202209 which calculated an RPD of 46.9% for sample 0874_SD125_220413, above the acceptance limit of 20% for laboratory duplicates.

Laboratory control spike (LCS) recovery

All LCS recoveries were reported within acceptable limits, except:

- Perfluorononanoic acid (PFNA) recovery of 146% was reported above the acceptance limit for an anonymous sample in batch ET2202285

Matrix spike recovery

All matrix spike (MS) recoveries were within control limits, except:

- In batch ET2202285 for PFHxS and PFOS which were not determined in water for sample 0874_MW021_220421 due to background level being greater than or equal to four times the spike level.
 - In batch ET2202209 for PFHxS and PFOS which were not determined in soil for sample 0874_QC103_220412 due to background level being greater than or equal to four times the spike level.
 - In batch ET2202209 for PFHxS and PFOS which were not determined in water for sample 0874_MW244_220413 due to background level being greater than or equal to four times the spike level.
- Some matrix interference was noted in batch RN1350702

Surrogate spike recovery

No surrogate recovery outliers were reported for any of the ALS batches.

The following surrogate recoveries were reported outside the acceptable range (of 60-120%) in batch RN1350702:

Soil

Analyte	Sample	% Recovery
Perfluorohexanoic acid (PFHxA)	0874_QC201_220411	134%
	0874_QC203_220412	226%
	0874_QC209_220413	134%

Perfluoroheptanoic acid (PFHpA)	0874_QC203_220412	154%
	0874_QC209_220413	122%
Perfluorooctanoic acid (PFOA)	0874_QC209_220413	133%
Perfluorododecanoic acid (PFDoA)	0874_QC201_220411	132%
	0874_QC203_220412	57%
	0874_QC205_220412	50%
Perfluorodecanoic acid (PFDA)	0874_QC209_220413	121%
perfluoroundecanoic acid (PFUdA)	0874_QC209_220413	58%
	0874_QC203_220412	46%
Perfluorotetradecanoic acid (PFTeDA)	0874_QC205_220412	50%
	0874_QC209_220413	28%
Perfluorohexadecanoic acid (PFHxDA)	0874_QC201_220411	147%
	0874_QC203_220412	12%
	0874_QC205_220412	45%
	0874_QC207_220413	58%
	0874_QC209_220413	24%
Perfluoropentanoic acid (PFPeA)	0874_QC203_220412	121%
2H-perfluoro-2-decenoic acid (FOUEA),	0874_QC203_220412	48%
	0874_QC209_220413	127%
Perfluorobutane sulfonic acid (PFBS)	0874_QC203_220412	220%
PFHxS	0874_QC203_220412	223%
Perfluorooctane sulphonamide (FOSA)	0874_QC203_220412	31%
N-Methyl perfluorooctane sulfonamide (MeFOSA)	0874_QC203_220412	22%
	0874_QC209_220413	127%
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	0874_QC209_220413	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	0874_QC203_220412	258%
	0874_QC207_220413	130%
	0874_QC209_220413	147%
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0874_QC207_220413	133%
	0874_QC209_220413	125%
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0874_QC205_220412	57%
8:2 perfluoroalkyl phosphate diester (diPAP)	0874_QC203_220412	38%
	0874_QC205_220412	58%
Waters		
Analyte	Sample	% Recovery
PFHxA	0874_QC200_220411	125%
	0874_QC211_220412	140%
	0874_QC212_220412	135%
	0874_QC215_220414	152%
	0874_QC216_220414	126%
	0874_QC217_220414	122%
	0874_QC218_220419	142%
	0874_QC219_220420	148%
	0874_QC502_220426	121%
PFHpA	0874_QC200_220411	150%
	0874_QC211_220412	143%
	0874_QC212_220412	142%
	0874_QC216_220414	121%
	0874_QC217_220414	138%
	0874_QC218_220419	128%
PFOA	0874_QC219_220420	147%
	0874_QC200_220411	135%
	0874_QC204_220412	143%
	0874_QC211_220412	126%
	0874_QC212_220412	135%
	0874_QC213_220413	125%
	0874_QC214_220413	123%
	0874_QC215_220414	131%
0874_QC216_220414	138%	
0874_QC219_220420	133%	

PFBS	0874_QC211_220412	126%	
	0874_QC212_220412	129%	
	0874_QC215_220414	124%	
	0874_QC216_220414	126%	
	0874_QC218_220419	128%	
	0874_QC219_220420	125%	
	PFDA	0874_QC202_220412	129%
		0874_QC204_220412	134%
		0874_QC212_220412	122%
		0874_QC213_220413	143%
		0874_QC502_220426	130%
	PFUdA	0874_QC212_220412	141%
0874_QC213_220413		133%	
0874_QC214_220413		57%	
0874_QC216_220414		140%	
PFDaA	0874_QC219_220420	157%	
	0874_QC220_220421	53%	
PFTeDA	0874_QC204_220412	213%	
	0874_QC213_220413	131%	
	0874_QC215_220414	130%	
	0874_QC216_220414	141%	
	0874_QC220_220421	57%	
	0874_QC217_220414	45%	
	0874_QC219_220420	157%	
0874_QC502_220426	133%		
Perfluorobutanoic acid (PFBA)	0874_QC202_220412	124%	
	0874_QC208_220413	124%	
	0874_QC211_220412	122%	
	0874_QC214_220413	123%	
	0874_QC218_220419	122%	
PFPeA	0874_QC200_220411	157%	
	0874_QC202_220412	179%	
	0874_QC204_220412	136%	
	0874_QC206_220413	182%	
	0874_QC208_220413	189%	
	0874_QC210_220421	130%	
	0874_QC211_220412	172%	
	0874_QC212_220412	157%	
	0874_QC213_220413	138%	
	0874_QC214_220413	138%	
	0874_QC216_220414	35%	
	0874_QC217_220414	144%	
	0874_QC218_220419	134%	
0874_QC219_220420	122%		
PFNA	0874_QC204_220412	169%	
	0874_QC206_220413	128%	
	0874_QC208_220413	131%	
	0874_QC210_220421	56%	
	0874_QC219_220420	125%	
	0874_QC220_220421	29%	
0874_QC502_220426	122%		
PFHxDA	0874_QC200_220411,	51%	
	0874_QC202_220412	52%	
	0874_QC206_220413	28%	
	0874_QC208_220413	45%	
	0874_QC210_220421	145%	
	0874_QC212_220412	54%	
	0874_QC213_220413	125%	
	0874_QC214_220413	152%	
	0874_QC215_220414	185%	
	0874_QC219_220420	124%	
0874_QC220_220421	220%		
FOUEA	0874_QC214_220413	134%	
	0874_QC220_220421	134%	

PFHxS	0874_QC200_220411	133%
	0874_QC204_220412	125%
	0874_QC211_220412	134%
	0874_QC212_220412	138%
	0874_QC215_220414	127%
	0874_QC216_220414	135%
	0874_QC217_220414	125%
	0874_QC218_220419	126%
	0874_QC219_220420	139%
PFOS	0874_QC215_220414	122%
	0874_QC216_220414	121%
MeFOSA	0874_QC213_220413	122%
	0874_QC214_220413	126%
	0874_QC216_220414	57%
	0874_QC217_220414	43%
	0874_QC220_220421	150%
0874_QC502_220426	53%	
EtFOSA	0874_QC202_220412	55%
	0874_QC206_220413	53%
	0874_QC208_220413	55%
	0874_QC216_220414	53%
	0874_QC217_220414	40%
0874_QC502_220426	50%	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	0874_QC204_220412	134%
	0874_QC213_220413	121%
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	0874_QC200_220411	59%
	0874_QC204_220412	176%
	0874_QC213_220413	140%
	0874_QC502_220426	122%
FOSA	0874_QC212_220412	122%
MeFOSE	0874_QC206_220413	59%
	0874_QC210_220421	133%
	0874_QC218_220419	43%
	0874_QC220_220421	191%
EtFOSE	0874_QC204_220412	125%
	0874_QC210_220421	135%
	0874_QC211_220412	123%
	0874_QC212_220412	125%
	0874_QC214_220413	165%
0874_QC220_220421	144%	
4:2 FTS	0874_QC200_220411	156%
	0874_QC202_220412	170%
	0874_QC206_220413	194%
	0874_QC208_220413	183%
	0874_QC210_220421	141%
	0874_QC214_220413	139%
	0874_QC217_220414	138%
0874_QC218_220419	124%	
6:2 FTS	0874_QC200_220411	126%
	0874_QC206_220413	157%
	0874_QC208_220413	138%
8:2 FTS	0874_QC204_220412	151%
	0874_QC206_220413	145%
	0874_QC208_220413	126%
	0874_QC213_220413	145%
	0874_QC502_220426	125%
diPAP	0874_QC204_220412	127%
	0874_QC212_220412	136%
	0874_QC213_220413	127%
	0874_QC219_220420	131%
	0874_QC502_220426	180%

	PFAS results in batch RN1350702 were corrected for surrogate recoveries reported outside the acceptance range.
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	No anomalous results between field observations and analysis results were noted.
Data transcription	A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.
Limits of reporting	<p>Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels.</p> <p>LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <p>ET2202209: SD118_220411, SD201_220411, SD109_220412, SD113_220412, SD125_220413, SD125_220413, SD125_220413, SD125_220413, SW125_220413, SW132_220413, SW118_220411, SW001_220413, SW017_220411, SW021_220411, MW243_220412, 0874_SW119_220411, QC111_20412, MW223, MW112_220412, MW114_220412, MW245_220412, MW043_220413, QC114_220413, MW009_220413</p> <p>ET2202285: SD123_220421, SD019_220421, MW204_220414, MW206_220414, MW204_220414, MW252_220414, MW261_220414, QC117_220414, MW046_220420, MW081_220420, MW005_220420, MW125_220420, MW129_220420, MW055_220421, MW045_220421, MW015_220421, QC110_220421, MW016_220421, QC120_22042, MW021_220421, MW139_220421, MW138_220421, MW110_220421, MW109_220421, SW123_220421, MW247_220421, MW248_220421, MW026_220421, MW033_220421, MW034_220421, MW026_220421, MW248_220421, MW247_220421, MW120_220421, MW116_220421, MW063_220421, MW126_220422, MW013_220422, MW061_220422, SW012_220422, MW232_220422, MW470_220422.</p>
Field duplicate RPDs	Field duplicate RPDs were reported within control limits.
Field triplicate RPDs	<p>Field triplicate RPDs were reported within control limits for all sample sets with the exception of the following (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> • PFHxA, PFOS and PFHxS in 0874_SD110_220412 and 0874_QC203_220412 • PFOS in 0874_SD010_220413 and 0874_QC207_220413 • PFBS, PFHxA and PFOA in 0874_SD102_220413 and 0874_QC209_220413 <p>Triplicate concentrations were within the same order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results. The variability between the primary and triplicate results is inferred to be the result of slight differences in analytical methods employed by the two laboratories. This is demonstrated through the laboratory duplicate results all being within acceptable limits.</p>

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209	ET2202209			
Field ID	0874_MW265_220412	0874_QC111_220412	RPD	0874_MW228_220412	0874_QC112_220412	RPD	0874_MW242_220413	0874_QC113_220413	RPD	0874_MW043_220413	0874_QC114_220413	RPD		
Sampled Date/Time	12/04/2022 12:17	12/04/2022 12:17		12/04/2022 15:05	12/04/2022 15:05		13/04/2022 9:54	13/04/2022 9:54		13/04/2022 12:06	13/04/2022 12:06			
ChemName	Units	EQL												
PFAS Full Suite														
Sum of PFAS (WA DER List)	µg/L	0.01	0.89	0.78	13	0.06	0.07	15	0.73	0.7	4	140	155	10
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.26	<0.27	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.26	<0.27	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.17	<0.19	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.26	<0.27	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64	<0.68	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.06	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64	<0.68	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64	<0.68	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.06	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64	<0.68	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.28	0.27	4	0.03	0.03	0	0.08	0.08	0	2.02	2.05	1
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<1.3	<1.4	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	1.82	2.11	15
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	1.41	1.54	9
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.07	0.05	33	<0.02	<0.02	0	0.08	0.08	0	13.8	15.8	14
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.12	0.1	18	<0.02	<0.02	0	0.06	0.06	0	2.62	2.97	13
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	1.79	2.05	14
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.06	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64	<0.68	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26	<0.27	0
Sum of PFAS	µg/L	0.01	1.01	0.88	14	0.06	0.07	15	0.79	0.76	4	145	160	10
Sum of PFHxS and PFOS	µg/L	0.01	0.54	0.46	16	0.03	0.04	29	0.56	0.53	6	117	129	10
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.08	0.06	29	<0.01	<0.01	0	0.16	0.15	6	61.3	65.9	7
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.02	0	<0.01	<0.01	0	0.01	0.01	0	4.49	4.51	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.46	0.4	14	0.03	0.04	29	0.4	0.38	5	55.4	63.2	13

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202285	ET2202285		ET2202285	ET2202285		ET2202285	ET2202285		ET2202285	ET2202285			
Field ID	0874_MW225_220414	0874_QC115_220414	RPD	0874_MW216_220414	0874_QC116_220414	RPD	0874_MW212_220414	0874_QC117_220414	RPD	0874_MW471_220419	0874_QC118_220419	RPD		
Sampled Date/Time	14/04/2022 10:45	14/04/2022 10:45		14/04/2022 14:20	14/04/2022 14:20		14/04/2022 16:00	14/04/2022 16:00		19/04/2022 12:00	19/04/2022 12:00			
ChemName	Units	EQL												
PFAS Full Suite														
Sum of PFAS (WA DER List)	µg/L	0.01	0.46	0.51	10	0.56	0.69	21	0.04	0.03	29	0.11	0.11	0
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.05	0.06	18	0.02	0.03	40	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Sum of PFAS	µg/L	0.01	0.46	0.51	10	0.56	0.69	21	0.04	0.03	29	0.11	0.11	0
Sum of PFHxS and PFOS	µg/L	0.01	0.4	0.44	10	0.54	0.66	20	0.04	0.03	29	0.11	0.11	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.3	0.33	10	0.41	0.5	20	0.04	0.03	29	0.08	0.08	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.01	0.01	0	<0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.1	0.11	10	0.13	0.16	21	<0.01	<0.02	0	0.03	0.03	0

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202285	ET2202285		ET2202285	ET2202285		ET2202285	ET2202285		ET2202285	RN1350702			
Field ID	0874_MW256_220420	0874_QC119_220420	RPD	0874_MW054_220421	0874_QC110_220421	RPD	0874_MW016_220421	0874_QC120_220421	RPD	0874_MW054_220421	0874_QC210_220421	RPD		
Sampled Date/Time	20/04/2022 11:15	20/04/2022 11:15		21/04/2022 12:27	21/04/2022 12:27		21/04/2022 13:03	21/04/2022 13:03		21/04/2022 12:27	21/04/2022 12:27			
ChemName	Units	EQL												
PFAS Full Suite														
Sum of PFAS (WA DER List)	µg/L	0.01	0.15	0.15	0	121	128	6	782	790	1	121	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.23	<0.24	0	<0.5	<0.51	0	<0.23	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	0.041	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.58	<0.6	0	<1.25	<1.25	0	<0.58	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.58	<0.6	0	<1.25	<1.25	0	<0.58	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.58	<0.6	0	<1.25	<1.25	0	<0.58	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.58	<0.6	0	<1.25	<1.25	0	<0.58	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	3.69	3.93	6	26.2	26.1	0	3.69	2.6	35
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<1.2	<1.2	0	7.4	7.8	5	<1.2	0.93	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	2.01	2.3	13	25.6	28.6	11	2.01	0.89	77
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.68	0.77	12	9.1	8.45	7	0.68	0.38	57
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	7.61	7.92	4	66.8	73.4	9	7.61	4.9	43
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	0.05	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	3.99	4.19	5	33.7	32	5	3.99	2.2	58
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	1.91	1.99	4	13.4	13.2	2	1.91	0.96	66
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.58	<0.6	0	<1.25	<1.25	0	<0.58	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.23	<0.24	0	<0.5	<0.5	0	<0.23	<0.01	0
Sum of PFAS	µg/L	0.01	0.15	0.15	0	127	134	5	842	850	1	127	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.1	0.11	10	106	111	5	638	642	1	106	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.09	0.1	11	82.8	85.8	4	311	296	5	82.8	53	44
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.05	0.04	22	1.82	1.8	1	21.4	18.6	14	1.82	0.79	79
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	0.01	0	22.9	25.5	11	327	346	6	22.9	16	35

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202209	RN1350702		ET2202209	RN1350702		ET2202209	RN1350702		ET2202209	RN1350702	
Field ID	0874_MW265_220412	0874_QC211_220412	RPD	0874_MW228_220412	0874_QC212_220412	RPD	0874_MW242_220413	0874_QC213_220413	RPD	0874_MW043_220413	0874_QC214_220413	RPD
Sampled Date/Time	12/04/2022 12:17	12/04/2022 12:17		12/04/2022 15:05	12/04/2022 15:05		13/04/2022 9:54	13/04/2022 9:54		13/04/2022 12:06	13/04/2022 12:06	
ChemName	Units	EQL										
PFAS Full Suite												
Sum of PFAS (WA DER List)	µg/L	0.01	0.89	-	-	0.06	-	-	0.73	-	-	140
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0	<0.26
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0	<0.26
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	0.016	0	<0.17
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01	0	<0.26
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0	<0.64
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0	<0.64
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.64
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.28	0.24	15	0.03	0.03	0	0.08	0.07	13	2.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0	<1.3
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	1.82
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	1.2
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.07	0.064	9	<0.02	<0.01	0	0.08	0.08	0	13.8
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	0.041
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	0.029
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.12	0.11	9	<0.02	<0.01	0	0.06	0.051	16	2.62
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	0.02	0	1.79
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02	0	<0.64
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.26
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.26
Sum of PFAS	µg/L	0.01	1.01	-	-	0.06	-	-	0.79	-	-	145
Sum of PFHxS and PFOS	µg/L	0.01	0.54	-	-	0.03	-	-	0.56	-	-	117
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.08	0.072	11	<0.01	<0.02	0	0.16	0.12	29	61.3
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	<0.01	0	0.01	0.011	10	4.49
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.46	0.39	16	0.03	0.032	6	0.4	0.38	5	55.4
												48
												14

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202285	RN1350702		ET2202285	RN1350702		ET2202285	RN1350702		
Field ID	0874_MW225_220414	0874_QC215_220414	RPD	0874_MW216_220414	0874_QC216_220414	RPD	0874_MW212_220414	0874_QC217_220414	RPD	
Sampled Date/Time	14/04/2022 10:45	14/04/2022 10:45		14/04/2022 14:20	14/04/2022 14:20		14/04/2022 16:00	14/04/2022 16:00		
ChemName	Units	EQL								
PFAS Full Suite										
Sum of PFAS (WA DER List)	µg/L	0.01	0.46	-	-	0.56	-	-	0.04	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.05	0.04	22	0.02	0.019	5	<0.02	<0.01
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	0.053	0	<0.1	<0.05	0	<0.1	<0.05
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.013	0	<0.02	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	0.014	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
Perfluorotridecanoic acid (PFTTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Sum of PFAS	µg/L	0.01	0.46	-	-	0.56	-	-	0.04	-
Sum of PFHxS and PFOS	µg/L	0.01	0.4	-	-	0.54	-	-	0.04	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.3	0.24	22	0.41	0.33	22	0.04	0.025
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.01	<0.01	0	<0.01	<0.01	0	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.1	0.098	2	0.13	0.12	8	<0.01	<0.01

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2202285	RN1350702		ET2202285	RN1350702		ET2202285	RN1350702			
Field ID	0874_MW471_220419	0874_QC218_220419	RPD	0874_MW256_220420	0874_QC219_220420	RPD	0874_MW016_220421	0874_QC220_220421	RPD		
Sampled Date/Time	19/04/2022 12:00	19/04/2022 12:00		20/04/2022 11:15	20/04/2022 11:15		21/04/2022 13:03	21/04/2022 13:03			
ChemName	Units	EQL									
PFAS Full Suite											
Sum of PFAS (WA DER List)	µg/L	0.01	0.11	-	-	0.15	-	-	782	-	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.5	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.5	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.5	0.42	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.5	0.015	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<1.25	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<1.25	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<1.25	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<1.25	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.015	0	26.2	16	48
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	7.4	5.5	29
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	0.013	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	25.6	16	46
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	0.011	0	9.1	4.8	62
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	66.8	40	50
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	0.08	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	0.051	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	33.7	18	61
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	13.4	7.6	55
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<1.25	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.5	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.5	<0.01	0
Sum of PFAS	µg/L	0.01	0.11	-	-	0.15	-	-	842	-	-
Sum of PFHxS and PFOS	µg/L	0.01	0.11	-	-	0.1	-	-	638	-	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.08	0.051	44	0.09	0.066	31	311	200	43
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	0.05	0.035	35	21.4	13	49
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.03	0.02	40	0.01	0.011	10	327	250	27

Table C2 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2202209	ET2202209		ET2202209	ET2202209		ET2202209	ET2202209		ET2202209	ET2202209			
Field ID	0874_SW129_220411	0874_QC100_220411	RPD	0874_SW116_220412	0874_QC104_220412	RPD	0874_SW110_220412	0874_QC102_220412	RPD	0874_SW102_220413	0874_QC108_220413	RPD		
Sampled Date/Time	11/04/2022 14:10	11/04/2022 14:10		12/04/2022 15:30	12/04/2022 15:30		12/04/2022 13:10	12/04/2022 13:10		13/04/2022 14:30	13/04/2022 14:30			
ChemName	Units	EQL												
PFAS Full Suite														
Sum of PFAS (WA DER List)	µg/L	0.01	<0.02	0.03	40	0.57	0.6	5	5.89	6.11	4	6.46	6.06	6
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.06	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.06	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.06	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.06	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.04	0.04	0	0.26	0.27	4	0.64	0.66	3
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	0.1	0.1	0	0.2	0.1	67
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	0.12	0.11	9	0.08	0.08	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	0.06	0.06	0	0.05	0.05	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.08	0.08	0	0.74	0.72	3	0.72	0.8	11
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.03	0.03	0	0.24	0.3	22	0.52	0.37	34
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	0.14	0.14	0	0.13	0.14	7
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.06	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Sum of PFAS	µg/L	0.01	<0.02	0.03	40	0.6	0.63	5	6.25	6.52	4	7.06	6.51	8
Sum of PFHxS and PFOS	µg/L	0.01	<0.02	0.03	40	0.43	0.46	7	4.46	4.69	5	4.61	4.19	10
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.02	0.02	0	0.25	0.25	0	2.55	2.33	9	1.7	1.89	11
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.02	<0.01	0	0.02	0.02	0	0.13	0.13	0	0.11	0.12	9
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.02	0.01	0	0.18	0.21	15	1.91	2.36	21	2.91	2.3	23

Table C2 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2202209	ET2202209		ET2202209	RN1350702		ET2202209	RN1350702	
Field ID	0874_SW010_220413	0874_QC106_220413	RPD	0874_SW129_220411	0874_QC200_220411	RPD	0874_SW110_220412	0874_QC202_220412	RPD
Sampled Date/Time	13/04/2022 13:10	13/04/2022 13:10		11/04/2022 14:10	11/04/2022 14:10		12/04/2022 13:10	12/04/2022 13:10	
ChemName	Units	EQL							
PFAS Full Suite									
Sum of PFAS (WA DER List)	µg/L	0.01	0.89	0.9	1	<0.02	-	5.89	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	<0.05	<0.01
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	<0.05	<0.01
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.05	<0.01	<0.05	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.06	<0.02	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.06	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.06	<0.02	<0.05	<0.02
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.06	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.05	<0.05	0	<0.2	<0.01	0.26	0.27
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0.1	0.12
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0.12	0.086
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.07	0.08	13	<0.02	<0.01	0.06	0.06
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.13	0.13	0	<0.02	<0.01	0.74	0.6
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.02	<0.02	0	<0.02	<0.01	0.24	0.24
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.13	0.13	0	<0.02	<0.02	0.14	0.14
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.06	<0.02	<0.05	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	<0.02	<0.01
Sum of PFAS	µg/L	0.01	0.91	0.9	1	<0.02	-	6.25	-
Sum of PFHxS and PFOS	µg/L	0.01	0.48	0.47	2	<0.02	-	4.46	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.29	0.28	4	<0.02	<0.02	2.55	1.9
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.08	0.09	12	<0.02	<0.01	0.13	0.13
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.19	0.19	0	<0.02	0.012	1.91	1.8

Table C2 - Surface Water Field Duplicates and Triplicates

Lab Report Number	ET2202209	RN1350702		ET2202209	RN1350702		ET2202209	RN1350702		
Field ID	0874_SW116_220412	0874_QC204_220412	RPD	0874_SW010_220413	0874_QC206_220413	RPD	0874_SW102_220413	0874_QC208_220413	RPD	
Sampled Date/Time	12/04/2022 15:30	12/04/2022 15:30		13/04/2022 13:10	13/04/2022 13:10		13/04/2022 14:30	13/04/2022 14:30		
ChemName	Units	EQL								
PFAS Full Suite										
Sum of PFAS (WA DER List)	µg/L	0.01	0.57	-	-	0.89	-	-	6.46	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	0.023	0	<0.05	<0.01
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.01	0	<0.05	<0.01	0	<0.05	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.039	3	<0.05	0.041	0	0.64	0.65
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	0.097	0	0.2	0.19
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	0.08	0.06
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	0.012	0	0.07	0.083	17	0.05	0.041
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	0.08	0.062	25	0.13	0.12	8	0.72	0.55
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.03	0.033	10	0.02	0.021	5	0.52	0.42
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	0.13	0.15	14	0.13	0.14
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.02	0	<0.05	<0.02	0	<0.05	<0.02
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01
Sum of PFAS	µg/L	0.01	0.6	-	-	0.91	-	-	7.06	-
Sum of PFHxS and PFOS	µg/L	0.01	0.43	-	-	0.48	-	-	4.61	-
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	0.25	-	4	0.29	0.32	10	1.7	1.5
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.02	0.022	10	0.08	0.072	11	0.11	0.095
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.18	0.19	5	0.19	0.16	17	2.91	2.2

Table C3 - Sediment Field Duplicates and Triplicates

Lab Report Number	ET2202209	ET2202209		ET2202209	ET2202209		ET2202209	ET2202209		ET2202209	ET2202209			
Field ID	0874_SD129_220411	0874_QC101_220411	RPD	0874_SD116_220412	0874_QC105_220412	RPD	0874_SD110_220412	0874_QC103_220412	RPD	0874_SD102_220413	0874_QC109_220413	RPD		
Sampled Date/Time	11/04/2022 14:10	11/04/2022 14:10		12/04/2022 15:30	12/04/2022 15:30		12/04/2022 16:54	12/04/2022 16:54		13/04/2022 14:30	13/04/2022 14:30			
ChemName	Units	EQL												
PFAS Full Suite														
Sum of PFAS (WA DER List)	mg/kg	0.0002	<0.0002	<0.0002	0	0.0046	0.0101	75	0.0559	0.0603	8	0.175	0.171	2
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0007	0.0005	33	0.0048	0.004	18
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0003	0.0002	40
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0009	0.001	11	0.0017	0.0016	6
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0003	0.0003	0	0.0004	0.0003	29
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0022	0.0021	5	0.0055	0.0051	8
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.001	0.001	0	0.0035	0.003	15
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0004	0.0002	0	0.0008	0.0007	13
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0	<0.0005	<0.0005	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0	<0.0002	<0.0002	0
Sum of PFAS	mg/kg	0.0002	<0.0002	<0.0002	0	0.0046	0.0101	75	0.0578	0.0623	7	0.18	0.175	3
Sum of PFHxS and PFOS	mg/kg	0.0002	<0.0002	<0.0002	0	0.0046	0.0101	75	0.0519	0.0563	8	0.16	0.158	1
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0004	0	0.0046	0.0099	73	0.0394	0.04	2	0.129	0.13	1
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.0002	0	0.0008	0.0009	12	0.003	0.0025	18
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	0.0002	0	0.0125	0.0163	26	0.0311	0.028	10
Moisture Content	%	0.1	21.3	20.9	2	43.4	45.3	4	28.4	31.2	9	77.7	75.9	2

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C3 - Sediment Field Duplicates and Triplicates

Lab Report Number	ET2202209	ET2202209		ET2202209	RN1350702		ET2202209	RN1350702		
Field ID	0874_SD010_220413	0874_QC107_220413	RPD	0874_SD129_220411	0874_QC201_220411	RPD	0874_SD110_220412	0874_QC203_220412	RPD	
Sampled Date/Time	13/04/2022 13:10	13/04/2022 13:10		11/04/2022 14:10	11/04/2022 14:10		12/04/2022 16:54	12/04/2022 16:54		
ChemName	Units	EQL								
PFAS Full Suite										
Sum of PFAS (WA DER List)	mg/kg	0.0002	0.0062	0.0274	126	<0.0002	-	-	0.0559	-
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.002	0	<0.0005	<0.002
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.001	0	<0.0005	<0.001
6:2 Fluorotelomer Sulfonate (6:2 Fts)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.001	0	<0.0005	<0.001
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.001	0	<0.0005	<0.001
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.002	0	<0.0005	<0.002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.002
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.002	0	<0.0005	<0.002
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.002
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.005	0	<0.0005	<0.005
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0007	0.0011
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.001	<0.002	0	<0.001	<0.002
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	0.0006	100	<0.0002	<0.001	0	<0.0002	<0.001
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	<0.0002	<0.001
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.002
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0009	<0.001
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0003	0.0017
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.0022	0.0045
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	<0.0002	0.0012
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	<0.0002	<0.001
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.001	0	0.001	0.0017
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0004	0.0037
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.0005	<0.002	0	<0.0005	<0.002
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.002
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.0002	<0.002	0	<0.0002	<0.002
Sum of PFAS	mg/kg	0.0002	0.0062	0.028	127	<0.0002	-	-	0.0578	-
Sum of PFHxS and PFOS	mg/kg	0.0002	0.0062	0.0272	126	<0.0002	-	-	0.0519	-
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	0.006	0.026	125	<0.0002	<0.002	0	0.0394	0.075
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	0.0002	0	<0.0002	<0.001	0	0.0008	<0.001
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	0.0002	0.0012	143	<0.0002	<0.001	0	0.0125	0.023
Moisture Content	%	0.1	45.2	43.7	3	21.3	-	-	28.4	-

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 10 (20-50 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table C3 - Sediment Field Duplicates and Triplicates

Lab Report Number Field ID Sampled Date/Time	ET2202209			RN1350702			ET2202209			RN1350702		
	0874_SD116_220412 12/04/2022 15:30	0874_QC205_220412 12/04/2022 15:30	RPD	0874_SD010_220413 13/04/2022 13:10	0874_QC207_220413 13/04/2022 13:10	RPD	0874_SD102_220413 13/04/2022 14:30	0874_QC209_220413 13/04/2022 14:30	RPD			
ChemName	Units	EQL										
PFAS Full Suite												
Sum of PFAS (WA DER List)	mg/kg	0.0002	0.0046	-	-	0.0062	-	-	0.175	-	-	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.002	0	<0.0005	<0.002	0	<0.0005	<0.002	0	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.001	0	<0.0005	<0.001	0	<0.0005	<0.001	0	
6:2 Fluorotelomer Sulfonate (6:2 Fts)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.001	0	<0.0005	<0.001	0	<0.0005	<0.001	0	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.001	0	<0.0005	<0.001	0	<0.0005	<0.001	0	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.002	0	<0.0005	<0.002	0	<0.0005	<0.002	0	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	<0.0002	<0.002	0	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.002	0	<0.0005	<0.002	0	<0.0005	<0.002	0	
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	<0.0002	<0.002	0	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.005	0	<0.0005	<0.005	0	<0.0005	<0.005	0	
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0048	0.0033	37	
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.002	0	<0.001	<0.002	0	<0.001	<0.002	0	
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0003	<0.001	0	
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	0.0011	138	<0.0002	0.0017	158	
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	<0.0002	<0.002	0	
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0017	<0.001	52	
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0004	<0.001	0	
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0055	0.0039	34	
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0	
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	<0.0002	<0.001	0	
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.0035	0.0035	0	
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	0.0008	<0.002	0	
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.002	0	<0.0005	<0.002	0	<0.0005	<0.002	0	
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	<0.0002	<0.002	0	
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.002	0	<0.0002	<0.002	0	<0.0002	<0.002	0	
Sum of PFAS	mg/kg	0.0002	0.0046	-	-	0.0062	-	-	0.18	-	-	
Sum of PFHxS and PFOS	mg/kg	0.0002	0.0046	-	-	0.0062	-	-	0.16	-	-	
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	0.0046	0.0058	23	0.006	0.038	145	0.129	0.14	8	
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	<0.0002	<0.001	0	0.003	0.0013	79	
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.001	0	0.0002	0.0014	150	0.0311	0.032	3	
Moisture Content	%	0.1	43.4	-	-	45.2	-	-	77.7	-	-	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 10 (20-50 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any me

Table C4- Rinsates and Field Blanks

Lab Report Number	ET2202209	ET2202209	ET2202209	ET2202285	ET2202285	ET2202285
Field ID	0874_QC300_220411	0874_QC301_220412	0874_QC303_220413	0874_QC305_220414	0874_QC306_220419	0874_QC307_220420
Sampled_Date/Time	11/04/2022 17:02	12/04/2022 16:30	13/04/2022 15:15	14/04/2022 16:30	19/04/2022 16:30	20/04/2022 15:00
Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

ChemName	Units	EQL						
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table C4- Rinsates and Field Blanks

Lab Report Number	ET2202285	ET2202285	ET2202514	ET2202209	ET2202285	ET2202514
Field ID	0874_QC308_220421	0874_QC309_220422	0874_QC350_220505	0874_QC500_220411	0874_QC501_220414	0874_QC550_220505
Sampled_Date/Time	21/04/2022 16:30	22/04/2022 12:14	5/05/2022 9:32	11/04/2022 12:00	14/04/2022 7:00	5/05/2022 10:32
Sample Type	Rinsate	Rinsate	Rinsate	Trip_B	Trip_B	Trip_B

ChemName	Units	EQL						
Sum of PFAS (WA DER List)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Appendix D

Chain of Custody Records



Environmental Division
Townsville
Work Order Reference
ET2202209



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PEASOMP Client: AECOM

Project Manager

Phone:

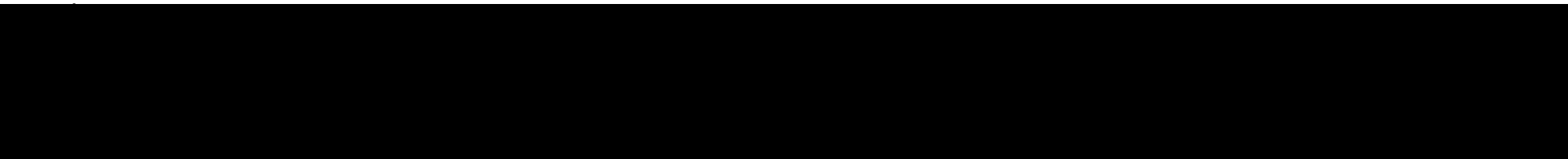
ALS Compass COC Reference: 36219 # Samples: 109

Sampler:

Phone:

Turnaround Requirements: Standard Urgent

Special Instructions:



Date / Time: <u>20/4/22 09:20</u>	Date / Time: <u>9:20 AM</u> <u>20/4/22</u>	Date / Time:	Date / Time: <u>21.4.22</u> <u>8.30</u>
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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW017_220411		11/04/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
002	0874_QC300_220411		11/04/2022 05:02 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
003	0874_SW120_220411		11/04/2022 01:25 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
004	0874_SW118_220411		11/04/2022 04:00 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
005	0874_SW127_220411		11/04/2022 01:45 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
006	0874_SW201_220411		11/04/2022 02:45 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for Lab QC
007	0874_SW114_220411		11/04/2022 04:15 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
008	0874_SW129_220411		11/04/2022 02:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
009	0874_SW117_220411		11/04/2022 03:45 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC500_220411		11/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
011	0874_SW119_220411		11/04/2022 03:20 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
012	0874_SW021_220411		11/04/2022 12:45 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for Lab QC
013	0874_QC100_220411		11/04/2022 02:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
014	0874_SD021_220411		11/04/2022 12:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
015	0874_SD127_220411		11/04/2022 01:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
016	0874_SD129_220411		11/04/2022 02:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
017	0874_SD017_220411		11/04/2022 01:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
018	0874_SD120_220411		11/04/2022 01:25 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SD201_220411		11/04/2022 02:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
020	0874_SD118_220411		11/04/2022 04:00 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
021	0874_SD119_220411		11/04/2022 03:20 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
022	0874_QC101_220411		11/04/2022 02:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
023	0874_SD117_220411		11/04/2022 03:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
024	0874_SD114_220411		11/04/2022 04:15 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
025	0874_MW265_220412		12/04/2022 12:17 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
026	0874_MW243_220412		12/04/2022 12:17 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
027	0874_QC111_220412		12/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFA SOPM
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:
 / ET2021AECOMAU0001

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW224_220412		12/04/2022 01:04 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
029	0874_MW223_220412		12/04/2022 01:21 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
030	0874_MW229_220412		12/04/2022 02:22 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
031	0874_MW226_220412		12/04/2022 02:47 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
032	0874_MW228_220412		12/04/2022 03:05 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
033	0874_QC112_220412		12/04/2022 03:05 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
034	0874_MW227_220412		12/04/2022 03:22 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
035	0874_MW114_220412		12/04/2022 03:39 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
036	0874_MW112_220412		12/04/2022 03:50 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc. High conc

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_MW246_220412		12/04/2022 03:59 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
038	0874_MW245_220412		12/04/2022 04:15 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
039	0874_QC302_220412		12/04/2022 04:45 PM	Water	ALS: 2 Non ALS: 0	Yes					
040	0874_QC105_220412		12/04/2022 04:51 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
041	0874_SD115_220412		12/04/2022 04:52 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
042	0874_SD113_220412		12/04/2022 04:52 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
043	0874_SD108_220412		12/04/2022 04:53 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
044	0874_SD109_220412		12/04/2022 04:54 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
045	0874_SD110_220412		12/04/2022 04:54 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

SAMPLER MOBILE:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SD208_220412		12/04/2022 04:55 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
047	0874_SD116_220412		12/04/2022 03:30 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
048	0874_SD107_220412		12/04/2022 02:15 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
049	0874_SD112_220412		12/04/2022 10:00 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
050	0874_QC103_220412		12/04/2022 01:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
051	0874_SD111_220412		12/04/2022 01:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
052	0874_SW108_220412		12/04/2022 02:35 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
053	0874_SW113_220412		12/04/2022 04:15 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
054	0874_SD210_220412		12/04/2022 12:45 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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EMAIL REPORTS TO:
 EMAIL INVOICES TO:

SAMPLE DETAILS **ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED				ADDITIONAL INFORMATION
							Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
055	0874_SW115_220412		12/04/2022 03:45 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
056	0874_SW208_220412		12/04/2022 03:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
057	0874_QC104_220412		12/04/2022 03:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
058	0874_QC301_220412		12/04/2022 04:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
059	0874_SW107_220412		12/04/2022 02:15 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
060	0874_SW110_220412		12/04/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
061	0874_QC102_220412		12/04/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
062	0874_SW210_220412		12/04/2022 02:45 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
063	0874_SW116_220412		12/04/2022 03:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

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RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS **ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_SW112_220412		12/04/2022 10:00 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
065	0874_SW109_220412		12/04/2022 02:45 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for Lab QC
066	0874_SW111_220412		12/04/2022 01:45 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for Lab QC
067	0874_MW136_220413		13/04/2022 08:39 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
068	0874_SW131_220413		13/04/2022 09:09 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
069	0874_SD131_220413		13/04/2022 09:09 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
070	0874_SW126_220413		13/04/2022 09:10 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
071	0874_SD126_220413		13/04/2022 09:11 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
072	0874_MW244_220413		13/04/2022 09:23 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0874_MW242_220413		13/04/2022 09:54 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
074	0874_QC113_220413		13/04/2022 09:55 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
075	0874_MW241_220413		13/04/2022 10:03 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for lab qc
076	0874_MW004_220413		13/04/2022 10:13 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
077	0874_MW122_220413		13/04/2022 10:20 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
078	0874_MW002_220413		13/04/2022 10:28 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
079	0874_MW135_220413		13/04/2022 10:36 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc
080	0874_MW056_220413		13/04/2022 11:39 AM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
081	0874_MW057_220413		13/04/2022 11:50 AM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra vol lab qc

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0874_MW043_220413		13/04/2022 12:06 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		High conc
083	0874_QC114_220413		13/04/2022 12:06 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
084	0874_MW009_220413		13/04/2022 12:18 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
085	0874_QC304_220413		13/04/2022 03:23 PM	Water	ALS: 2 Non ALS: 0	Yes	-				
086	0874_SD102_220413		13/04/2022 02:30 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
087	0874_SD016_220413		13/04/2022 03:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
088	0874_SD132_220413		13/04/2022 04:11 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
089	0874_QC109_220413		13/04/2022 02:30 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
090	0874_SD125_220413		13/04/2022 02:00 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			

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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
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SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0874_SD001_220413		13/04/2022 03:30 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
092	0874_QC107_220413		13/04/2022 01:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
093	0874_SD010_220413		13/04/2022 01:10 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
094	0874_SD013_220413		13/04/2022 03:00 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
095	0874_SD106_220413		13/04/2022 11:45 AM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
096	0874_SD014_220413		13/04/2022 12:30 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
097	0874_SD209_220413		13/04/2022 12:00 PM	Soil	ALS: 1 Non ALS: 0	No		Partial 1/4			
098	0874_SW209_220413		13/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
099	0874_QC108_220413		13/04/2022 02:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		

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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED				
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0874_QC303_220413		13/04/2022 03:15 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
101	0874_SW102_220413		13/04/2022 02:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
102	0874_SW106_220413		13/04/2022 04:36 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4			
103	0874_SW001_220413		13/04/2022 01:30 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
104	0874_SW125_220413		13/04/2022 02:00 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
105	0874_SW010_220413		13/04/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
106	0874_QC106_220413		13/04/2022 01:10 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
107	0874_SW132_220413		13/04/2022 01:40 PM	Water	ALS: 2 Non ALS: 0	No			Partial 1/4		
108	0874_SW014_220413		13/04/2022 12:30 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for Lab QC

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

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DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
109	0874_SW016_220413		13/04/2022 04:47 PM	Water	ALS: 4 Non ALS: 0	No			Partial 1/4		Extra volume for lab QC

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

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DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
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SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW017_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC300_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW120_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW118_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW127_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW201_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW114_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW129_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW117_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC500_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW119_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW021_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_QC100_220411	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SD021_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
015	0874_SD127_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:
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EMAIL REPORTS TO:
 EMAIL INVOICES TO:

016	0874_SD129_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
017	0874_SD017_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
018	0874_SD120_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
019	0874_SD201_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
020	0874_SD118_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
021	0874_SD119_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_QC101_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
023	0874_SD117_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
024	0874_SD114_220411	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
025	0874_MW265_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW243_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_QC111_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW224_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW223_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_MW229_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW226_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

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DATE TIME:

RECEIVED BY:
DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032	0874_MW228_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_QC112_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_MW227_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_MW114_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_MW112_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_MW246_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_MW245_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_QC105_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
041	0874_SD115_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
042	0874_SD113_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
043	0874_SD108_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
044	0874_SD109_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
045	0874_SD110_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
046	0874_SD208_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
047	0874_SD116_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
048	0874_SD107_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
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TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

049	0874_SD112_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
050	0874_QC103_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
051	0874_SD111_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
052	0874_SW108_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_SW113_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_SD210_220412	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
055	0874_SW115_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_SW208_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_QC104_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_QC301_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_SW107_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_SW110_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_QC102_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_SW210_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_SW116_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
064	0874_SW112_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

065	0874_SW109_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_SW111_220412	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW136_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_SW131_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_SD131_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
070	0874_SW126_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_SD126_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
072	0874_MW244_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
073	0874_MW242_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_QC113_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
075	0874_MW241_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
076	0874_MW004_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
077	0874_MW122_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
078	0874_MW002_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
079	0874_MW135_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
080	0874_MW056_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

081	0874_MW057_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
082	0874_MW043_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
083	0874_QC114_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
084	0874_MW009_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
086	0874_SD102_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
087	0874_SD016_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
088	0874_SD132_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
089	0874_QC109_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
090	0874_SD125_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
091	0874_SD001_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
092	0874_QC107_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
093	0874_SD010_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
094	0874_SD013_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
095	0874_SD106_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
096	0874_SD014_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
097	0874_SD209_220413	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 36219

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

C

Other comments:

098	0874_SW209_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
099	0874_QC108_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
100	0874_QC303_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
101	0874_SW102_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
102	0874_SW106_220413	Sediments SEDIMENT	Water	- EP231X (solids) PFAS - Full Suite (28 analytes)
103	0874_SW001_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
104	0874_SW125_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
105	0874_SW010_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
106	0874_QC106_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
107	0874_SW132_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
108	0874_SW014_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
109	0874_SW016_220413	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW017_220411	HDPE (no PTFE)	20 mL	00350621050410	Grey	No	
001	0874_SW017_220411	HDPE (no PTFE)	20 mL	00350621030180	Grey	No	
002	0874_QC300_220411	HDPE (no PTFE)	20 mL	00350019024857	Grey	No	
002	0874_QC300_220411	HDPE (no PTFE)	20 mL	00350019045187	Grey	No	
003	0874_SW120_220411	HDPE (no PTFE)	20 mL	00350019045291	Grey	No	
003	0874_SW120_220411	HDPE (no PTFE)	20 mL	00350019045252	Grey	No	
004	0874_SW118_220411	HDPE (no PTFE)	20 mL	00350621030120	Grey	No	
004	0874_SW118_220411	HDPE (no PTFE)	20 mL	00350621050473	Grey	No	
005	0874_SW127_220411	HDPE (no PTFE)	20 mL	00350621030093	Grey	No	
005	0874_SW127_220411	HDPE (no PTFE)	20 mL	00350621030105	Grey	No	
006	0874_SW201_220411	HDPE (no PTFE)	20 mL	00352101052907	Grey	No	
006	0874_SW201_220411	HDPE (no PTFE)	20 mL	00350019024950	Grey	No	
006	0874_SW201_220411	HDPE (no PTFE)	20 mL	00350019045234	Grey	No	
006	0874_SW201_220411	HDPE (no PTFE)	20 mL	00352101052906	Grey	No	
007	0874_SW114_220411	HDPE (no PTFE)	20 mL	00352101033454	Grey	No	
007	0874_SW114_220411	HDPE (no PTFE)	20 mL	00352101033424	Grey	No	
008	0874_SW129_220411	HDPE (no PTFE)	20 mL	00350019024963	Grey	No	
008	0874_SW129_220411	HDPE (no PTFE)	20 mL	00350019045320	Grey	No	
009	0874_SW117_220411	HDPE (no PTFE)	20 mL	00352101033590	Grey	No	
009	0874_SW117_220411	HDPE (no PTFE)	20 mL	00352101052867	Grey	No	
010	0874_QC500_220411	HDPE (no PTFE)	20 mL	00350621064563	Grey	No	
010	0874_QC500_220411	HDPE (no PTFE)	20 mL	00350621064609	Grey	No	
011	0874_SW119_220411	HDPE (no PTFE)	20 mL	00352101033566	Grey	No	
011	0874_SW119_220411	HDPE (no PTFE)	20 mL	00352101052902	Grey	No	
012	0874_SW021_220411	HDPE (no PTFE)	20 mL	00350821027450	Grey	No	
012	0874_SW021_220411	HDPE (no PTFE)	20 mL	00350821027437	Grey	No	

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

012	0874_SW021_220411	HDPE (no PTFE)	20 mL	00350821027507	Grey	No	
012	0874_SW021_220411	HDPE (no PTFE)	20 mL	00350821027884	Grey	No	
013	0874_QC100_220411	HDPE (no PTFE)	20 mL	00350621050441	Grey	No	
013	0874_QC100_220411	HDPE (no PTFE)	20 mL	00350621030168	Grey	No	
014	0874_SD021_220411	HDPE Soil Jar	200 mL	00620719071600	Grey	No	
015	0874_SD127_220411	HDPE Soil Jar	200 mL	00620719071621	Grey	No	
016	0874_SD129_220411	HDPE Soil Jar	200 mL	00620719071577	Grey	No	
017	0874_SD017_220411	HDPE Soil Jar	200 mL	00620719071565	Grey	No	
018	0874_SD120_220411	HDPE Soil Jar	200 mL	00620719026171	Grey	No	
019	0874_SD201_220411	HDPE Soil Jar	200 mL	00620719071571	Grey	No	
020	0874_SD118_220411	HDPE Soil Jar	200 mL	00620719071576	Grey	No	
021	0874_SD119_220411	HDPE Soil Jar	200 mL	00620719071608	Grey	No	
022	0874_QC101_220411	HDPE Soil Jar	200 mL	00620719086125	Grey	No	
023	0874_SD117_220411	HDPE Soil Jar	200 mL	00620719071549	Grey	No	
024	0874_SD114_220411	HDPE Soil Jar	200 mL	00620719071587	Grey	No	
025	0874_MW265_220412	HDPE (no PTFE)	20 mL	00350821027556	Grey	No	
025	0874_MW265_220412	HDPE (no PTFE)	20 mL	00350821027689	Grey	No	
026	0874_MW243_220412	HDPE (no PTFE)	20 mL	00350821027469	Grey	No	
026	0874_MW243_220412	HDPE (no PTFE)	20 mL	00350821027833	Grey	No	
026	0874_MW243_220412	HDPE (no PTFE)	20 mL	00350821027377	Grey	No	
026	0874_MW243_220412	HDPE (no PTFE)	20 mL	00350821027675	Grey	No	
027	0874_QC111_220412	HDPE (no PTFE)	20 mL	00350821027830	Grey	No	
027	0874_QC111_220412	HDPE (no PTFE)	20 mL	00350821027648	Grey	No	
028	0874_MW224_220412	HDPE (no PTFE)	20 mL	00350821027842	Grey	No	
028	0874_MW224_220412	HDPE (no PTFE)	20 mL	00350821027858	Grey	No	
029	0874_MW223_220412	HDPE (no PTFE)	20 mL	00350821027850	Grey	No	
029	0874_MW223_220412	HDPE (no PTFE)	20 mL	00350821027881	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

030	0874_MW229_220412	HDPE (no PTFE)	20 mL	00350821027326	Grey	No	
030	0874_MW229_220412	HDPE (no PTFE)	20 mL	00350821027696	Grey	No	
030	0874_MW229_220412	HDPE (no PTFE)	20 mL	00350821027804	Grey	No	
030	0874_MW229_220412	HDPE (no PTFE)	20 mL	00350821027722	Grey	No	
031	0874_MW226_220412	HDPE (no PTFE)	20 mL	00350821027840	Grey	No	
031	0874_MW226_220412	HDPE (no PTFE)	20 mL	00350821027757	Grey	No	
032	0874_MW228_220412	HDPE (no PTFE)	20 mL	00350821027790	Grey	No	
032	0874_MW228_220412	HDPE (no PTFE)	20 mL	00350821027772	Grey	No	
033	0874_QC112_220412	HDPE (no PTFE)	20 mL	00350821027869	Grey	No	
033	0874_QC112_220412	HDPE (no PTFE)	20 mL	00350821027640	Grey	No	
034	0874_MW227_220412	HDPE (no PTFE)	20 mL	00350821027847	Grey	No	
034	0874_MW227_220412	HDPE (no PTFE)	20 mL	00350821027764	Grey	No	
035	0874_MW114_220412	HDPE (no PTFE)	20 mL	00350821027801	Grey	No	
035	0874_MW114_220412	HDPE (no PTFE)	20 mL	00350821027770	Grey	No	
036	0874_MW112_220412	HDPE (no PTFE)	20 mL	00350821027562	Grey	No	
036	0874_MW112_220412	HDPE (no PTFE)	20 mL	00350821027726	Grey	No	
036	0874_MW112_220412	HDPE (no PTFE)	20 mL	00350821027664	Grey	No	
036	0874_MW112_220412	HDPE (no PTFE)	20 mL	00350821027721	Grey	No	
037	0874_MW246_220412	HDPE (no PTFE)	20 mL	00350821027785	Grey	No	
037	0874_MW246_220412	HDPE (no PTFE)	20 mL	00350821027875	Grey	No	
038	0874_MW245_220412	HDPE (no PTFE)	20 mL	00350821027393	Grey	No	
038	0874_MW245_220412	HDPE (no PTFE)	20 mL	00350821027731	Grey	No	
039	0874_QC302_220412	HDPE (no PTFE)	20 mL	00350821027432	Grey	No	
039	0874_QC302_220412	HDPE (no PTFE)	20 mL	00350821027605	Grey	No	
040	0874_QC105_220412	HDPE Soil Jar	200 mL	00620719026186	Grey	No	
041	0874_SD115_220412	HDPE Soil Jar	200 mL	00620719026228	Grey	No	
042	0874_SD113_220412	HDPE Soil Jar	200 mL	00620719071631	Grey	No	

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

043	0874_SD108_220412	HDPE Soil Jar	200 mL	00620719071620	Grey	No	
044	0874_SD109_220412	HDPE Soil Jar	200 mL	00620719071554	Grey	No	
045	0874_SD110_220412	HDPE Soil Jar	200 mL	00620719071591	Grey	No	
046	0874_SD208_220412	HDPE Soil Jar	200 mL	00620719071562	Grey	No	
047	0874_SD116_220412	HDPE Soil Jar	200 mL	00620719026210	Grey	No	
048	0874_SD107_220412	HDPE Soil Jar	200 mL	00620719044480	Grey	No	
049	0874_SD112_220412	HDPE Soil Jar	200 mL	00620719071603	Grey	No	
050	0874_QC103_220412	HDPE Soil Jar	200 mL	00620719071556	Grey	No	
051	0874_SD111_220412	HDPE Soil Jar	200 mL	00620719071645	Grey	No	
052	0874_SW108_220412	HDPE (no PTFE)	20 mL	00350821027551	Grey	No	
052	0874_SW108_220412	HDPE (no PTFE)	20 mL	00350821027592	Grey	No	
053	0874_SW113_220412	HDPE (no PTFE)	20 mL	00350821027744	Grey	No	
053	0874_SW113_220412	HDPE (no PTFE)	20 mL	00350821027400	Grey	No	
054	0874_SD210_220412	HDPE Soil Jar	200 mL	00620719071588	Grey	No	
055	0874_SW115_220412	HDPE (no PTFE)	20 mL	00350821027498	Grey	No	
055	0874_SW115_220412	HDPE (no PTFE)	20 mL	00350821027360	Grey	No	
056	0874_SW208_220412	HDPE (no PTFE)	20 mL	00350821027398	Grey	No	
056	0874_SW208_220412	HDPE (no PTFE)	20 mL	00350821027519	Grey	No	
057	0874_QC104_220412	HDPE (no PTFE)	20 mL	00350821027452	Grey	No	
057	0874_QC104_220412	HDPE (no PTFE)	20 mL	00350821027365	Grey	No	
058	0874_QC301_220412	HDPE (no PTFE)	20 mL	00350821027674	Grey	No	
058	0874_QC301_220412	HDPE (no PTFE)	20 mL	00350821027534	Grey	No	
059	0874_SW107_220412	HDPE (no PTFE)	20 mL	00350821027345	Grey	No	
059	0874_SW107_220412	HDPE (no PTFE)	20 mL	00350821027902	Grey	No	
060	0874_SW110_220412	HDPE (no PTFE)	20 mL	00352101033597	Grey	No	
060	0874_SW110_220412	HDPE (no PTFE)	20 mL	00352101033541	Grey	No	
061	0874_QC102_220412	HDPE (no PTFE)	20 mL	00350019045247	Grey	No	

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

061	0874_QC102_220412	HDPE (no PTFE)	20 mL	00350019045261	Grey	No	
062	0874_SW210_220412	HDPE (no PTFE)	20 mL	00350019024860	Grey	No	
062	0874_SW210_220412	HDPE (no PTFE)	20 mL	00350019024891	Grey	No	
063	0874_SW116_220412	HDPE (no PTFE)	20 mL	00350821027856	Grey	No	
063	0874_SW116_220412	HDPE (no PTFE)	20 mL	00350821027506	Grey	No	
064	0874_SW112_220412	HDPE (no PTFE)	20 mL	00350821027878	Grey	No	
064	0874_SW112_220412	HDPE (no PTFE)	20 mL	00350821027477	Grey	No	
065	0874_SW109_220412	HDPE (no PTFE)	20 mL	00350821027635	Grey	No	
065	0874_SW109_220412	HDPE (no PTFE)	20 mL	00350821027496	Grey	No	
065	0874_SW109_220412	HDPE (no PTFE)	20 mL	00350821027836	Grey	No	
065	0874_SW109_220412	HDPE (no PTFE)	20 mL	00350821027500	Grey	No	
066	0874_SW111_220412	HDPE (no PTFE)	20 mL	00350821027490	Grey	No	
066	0874_SW111_220412	HDPE (no PTFE)	20 mL	00350821027831	Grey	No	
066	0874_SW111_220412	HDPE (no PTFE)	20 mL	00350821027364	Grey	No	
066	0874_SW111_220412	HDPE (no PTFE)	20 mL	00350821027483	Grey	No	
067	0874_MW136_220413	HDPE (no PTFE)	20 mL	00350821027863	Grey	No	
067	0874_MW136_220413	HDPE (no PTFE)	20 mL	00350821027520	Grey	No	
068	0874_SW131_220413	HDPE (no PTFE)	20 mL	00350821027527	Grey	No	
068	0874_SW131_220413	HDPE (no PTFE)	20 mL	00350821027752	Grey	No	
069	0874_SD131_220413	HDPE Soil Jar	200 mL	00620719043902	Grey	No	
070	0874_SW126_220413	HDPE (no PTFE)	20 mL	00350821027818	Grey	No	
070	0874_SW126_220413	HDPE (no PTFE)	20 mL	00350821027464	Grey	No	
071	0874_SD126_220413	HDPE Soil Jar	200 mL	00620719043983	Grey	No	
072	0874_MW244_220413	HDPE (no PTFE)	20 mL	00350821027625	Grey	No	
072	0874_MW244_220413	HDPE (no PTFE)	20 mL	00350821027709	Grey	No	
072	0874_MW244_220413	HDPE (no PTFE)	20 mL	00350821027634	Grey	No	
072	0874_MW244_220413	HDPE (no PTFE)	20 mL	00350821027897	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: C Other comments:

073	0874_MW242_220413	HDPE (no PTFE)	20 mL	00350821027841	Grey	No	
073	0874_MW242_220413	HDPE (no PTFE)	20 mL	00350821027685	Grey	No	
074	0874_QC113_220413	HDPE (no PTFE)	20 mL	00350821027728	Grey	No	
074	0874_QC113_220413	HDPE (no PTFE)	20 mL	00350821027761	Grey	No	
075	0874_MW241_220413	HDPE (no PTFE)	20 mL	00350821027537	Grey	No	
075	0874_MW241_220413	HDPE (no PTFE)	20 mL	00350821027482	Grey	No	
075	0874_MW241_220413	HDPE (no PTFE)	20 mL	00350821027510	Grey	No	
075	0874_MW241_220413	HDPE (no PTFE)	20 mL	00350821027509	Grey	No	
076	0874_MW004_220413	HDPE (no PTFE)	20 mL	00350821027724	Grey	No	
076	0874_MW004_220413	HDPE (no PTFE)	20 mL	00350821027585	Grey	No	
077	0874_MW122_220413	HDPE (no PTFE)	20 mL	00350821027643	Grey	No	
077	0874_MW122_220413	HDPE (no PTFE)	20 mL	00350821027705	Grey	No	
078	0874_MW002_220413	HDPE (no PTFE)	20 mL	00350821027762	Grey	No	
078	0874_MW002_220413	HDPE (no PTFE)	20 mL	00350821027402	Grey	No	
079	0874_MW135_220413	HDPE (no PTFE)	20 mL	00350821027891	Grey	No	
079	0874_MW135_220413	HDPE (no PTFE)	20 mL	00350821027645	Grey	No	
079	0874_MW135_220413	HDPE (no PTFE)	20 mL	00350821027633	Grey	No	
079	0874_MW135_220413	HDPE (no PTFE)	20 mL	00350821027883	Grey	No	
080	0874_MW056_220413	HDPE (no PTFE)	20 mL	00350821027676	Grey	No	
080	0874_MW056_220413	HDPE (no PTFE)	20 mL	00350821027387	Grey	No	
081	0874_MW057_220413	HDPE (no PTFE)	20 mL	00350821027418	Grey	No	
081	0874_MW057_220413	HDPE (no PTFE)	20 mL	00350821027641	Grey	No	
081	0874_MW057_220413	HDPE (no PTFE)	20 mL	00350821027663	Grey	No	
081	0874_MW057_220413	HDPE (no PTFE)	20 mL	00350821027835	Grey	No	
082	0874_MW043_220413	HDPE (no PTFE)	20 mL	00350821027404	Grey	No	
082	0874_MW043_220413	HDPE (no PTFE)	20 mL	00350821027794	Grey	No	
083	0874_QC114_220413	HDPE (no PTFE)	20 mL	00350821027695	Grey	No	

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

083	0874_QC114_220413	HDPE (no PTFE)	20 mL	00350821027879	Grey	No	
084	0874_MW009_220413	HDPE (no PTFE)	20 mL	00350821027698	Grey	No	
084	0874_MW009_220413	HDPE (no PTFE)	20 mL	00350821027668	Grey	No	
085	0874_QC304_220413	HDPE (no PTFE)	20 mL	00350821027867	Grey	No	
085	0874_QC304_220413	HDPE (no PTFE)	20 mL	00350821027708	Grey	No	
086	0874_SD102_220413	HDPE Soil Jar	200 mL	00620719026323	Grey	No	
087	0874_SD016_220413	HDPE Soil Jar	200 mL	00620719071583	Grey	No	
088	0874_SD132_220413	HDPE Soil Jar	200 mL	00620719026309	Grey	No	
089	0874_QC109_220413	HDPE Soil Jar	200 mL	00620719044583	Grey	No	
090	0874_SD125_220413	HDPE Soil Jar	200 mL	00620719026218	Grey	No	
091	0874_SD001_220413	HDPE Soil Jar	200 mL	00620719026307	Grey	No	
092	0874_QC107_220413	HDPE Soil Jar	200 mL	00620719026302	Grey	No	
093	0874_SD010_220413	HDPE Soil Jar	200 mL	00620719026140	Grey	No	
094	0874_SD013_220413	HDPE Soil Jar	200 mL	00620719071596	Grey	No	
095	0874_SD106_220413	HDPE Soil Jar	200 mL	00620719043881	Grey	No	
096	0874_SD014_220413	HDPE Soil Jar	200 mL	00620719071636	Grey	No	
097	0874_SD209_220413	HDPE Soil Jar	200 mL	00620719026188	Grey	No	
098	0874_SW209_220413	HDPE (no PTFE)	20 mL	00350821027495	Grey	No	
098	0874_SW209_220413	HDPE (no PTFE)	20 mL	00350821027644	Grey	No	
099	0874_QC108_220413	HDPE (no PTFE)	20 mL	00350821027323	Grey	No	
099	0874_QC108_220413	HDPE (no PTFE)	20 mL	00350821027406	Grey	No	
100	0874_QC303_220413	HDPE (no PTFE)	20 mL	00350821027465	Grey	No	
100	0874_QC303_220413	HDPE (no PTFE)	20 mL	00350821027526	Grey	No	
101	0874_SW102_220413	HDPE (no PTFE)	20 mL	00350821027618	Grey	No	
101	0874_SW102_220413	HDPE (no PTFE)	20 mL	00350821027691	Grey	No	
102	0874_SW106_220413	HDPE (no PTFE)	20 mL	00350821027716	Grey	No	
102	0874_SW106_220413	HDPE (no PTFE)	20 mL	00350821027853	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

103	0874_SW001_220413	HDPE (no PTFE)	20 mL	00350821027548	Grey	No	
103	0874_SW001_220413	HDPE (no PTFE)	20 mL	00350821027581	Grey	No	
104	0874_SW125_220413	HDPE (no PTFE)	20 mL	00350821027362	Grey	No	
104	0874_SW125_220413	HDPE (no PTFE)	20 mL	00350821027900	Grey	No	
105	0874_SW010_220413	HDPE (no PTFE)	20 mL	00350821027866	Grey	No	
105	0874_SW010_220413	HDPE (no PTFE)	20 mL	00350821027739	Grey	No	
106	0874_QC106_220413	HDPE (no PTFE)	20 mL	00350821027582	Grey	No	
106	0874_QC106_220413	HDPE (no PTFE)	20 mL	00350821027515	Grey	No	
107	0874_SW132_220413	HDPE (no PTFE)	20 mL	00350821027558	Grey	No	
107	0874_SW132_220413	HDPE (no PTFE)	20 mL	00350821027609	Grey	No	
108	0874_SW014_220413	HDPE (no PTFE)	20 mL	00350821027344	Grey	No	
108	0874_SW014_220413	HDPE (no PTFE)	20 mL	00350821027690	Grey	No	
108	0874_SW014_220413	HDPE (no PTFE)	20 mL	00350821027182	Grey	No	
108	0874_SW014_220413	HDPE (no PTFE)	20 mL	00350821027350	Grey	No	
109	0874_SW016_220413	HDPE (no PTFE)	20 mL	00350821027395	Grey	No	
109	0874_SW016_220413	HDPE (no PTFE)	20 mL	00350821027588	Grey	No	
109	0874_SW016_220413	HDPE (no PTFE)	20 mL	00350821027547	Grey	No	
109	0874_SW016_220413	HDPE (no PTFE)	20 mL	00350821027374	Grey	No	

Total Bottle Count: ALS: 206, Non ALS: 0

SCANNED



Environmental Division
Townsville
Work Order Reference
ET2202285



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD - 0874 - PFAS OML Client: AECOM

Project Manager: _____

Phone: _____

ALS Compass COC Reference: 36480 # Samples: 105

Sampler: _____

Phone: _____

Turnaround Requirements: Standard 10 DAY TAT Urgent _____

Special Instructions:

Custody:			
Relinquished by:	Received by:	Relinquished at:	Received at:
[REDACTED]			
Date / Time: <u>26/4/22 1025</u>	Date / Time: <u>26/4/22 10:30</u>	Date / Time:	Date / Time: <u>27/4/22 @ 6:50</u>

**CHAIN OF CUSTODY**

COC#: 36480

ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW204_220414		14/04/2022 11:00 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
002	0874_MW205_220414		14/04/2022 11:40 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
003	0874_MW206_220414		14/04/2022 12:03 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
004	0874_MW207_220414		14/04/2022 11:30 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0874_MW208_220414		14/04/2022 01:15 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
006	0874_MW211_220419		19/04/2022 11:20 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_MW212_220414		14/04/2022 04:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
008	0874_MW213_220414		14/04/2022 03:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
009	0874_MW214_220414		14/04/2022 03:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments / SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW215_220414		14/04/2022 02:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
011	0874_MW216_220414		14/04/2022 02:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_MW217_220414		14/04/2022 12:10 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
013	0874_MW218_220414		14/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
014	0874_MW219_220414		14/04/2022 11:30 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
015	0874_MW220_220414		14/04/2022 11:50 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
016	0874_MW225_220414		14/04/2022 10:45 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
017	0874_MW233_220414		14/04/2022 01:50 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
018	0874_MW234_220414		14/04/2022 09:25 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 36480

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
019	0874_MW235_220414		14/04/2022 09:35 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
020	0874_MW237_220414		14/04/2022 10:15 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
021	0874_MW239_220414		14/04/2022 10:10 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
022	0874_MW240_220414		14/04/2022 09:36 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
023	0874_MW252_220414		14/04/2022 02:15 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
024	0874_MW255_220414		14/04/2022 09:55 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
025	0874_MW261_220414		14/04/2022 01:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
026	0874_MW266_220414		14/04/2022 11:20 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
027	0874_MW267_220414		14/04/2022 11:00 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 36480

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_MW269_220414		14/04/2022 02:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
029	0874_MW300_220414		14/04/2022 09:00 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
030	0874_MW467_220414		14/04/2022 03:21 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
031	0874_MW471_220419		19/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
032	0874_MW301_220414		14/04/2022 02:41 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
033	0874_QC115_220414		14/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
034	0874_QC116_220414		14/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
035	0874_QC117_220414		14/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
036	0874_QC118_220419		19/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
037	0874_QC305_220414		14/04/2022 04:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
038	0874_QC306_220419		20/04/2022 09:55 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
039	0874_QC501_220414		14/04/2022 07:00 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
040	0874_MW046_220420		20/04/2022 11:45 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
041	0874_MW090_220420		20/04/2022 02:29 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
042	0874_MW005_220420		20/04/2022 02:37 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
043	0874_MW081_220420		20/04/2022 02:49 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra volume lab qc
044	0874_MW125_220420		20/04/2022 02:58 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
045	0874_MW222_220420		20/04/2022 04:14 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 36480

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000
1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_MW258_220420		20/04/2022 01:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
047	0874_MW260_220420		20/04/2022 05:16 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
048	0874_MW268_220420		20/04/2022 03:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
049	0874_MW259_220420		20/04/2022 02:20 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
050	0874_MW263_220420		20/04/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
051	0874_MW270_220420		20/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
052	0874_MW221_220420		20/04/2022 05:13 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
053	0874_MW256_220420		20/04/2022 11:15 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
054	0874_QC119_220420		20/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_QC307_220420		20/04/2022 03:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
056	0874_MW251_220420		20/04/2022 10:47 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
057	0874_MW142_220420		20/04/2022 10:23 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
058	0874_MW250_220420		20/04/2022 11:03 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
059	0874_MW118_220420		20/04/2022 09:17 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
060	0874_MW140_220420		20/04/2022 09:48 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
061	0874_MW129_220420		20/04/2022 08:40 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
062	0874_MW203_220421		21/04/2022 08:55 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
063	0874_MW202_220421		21/04/2022 09:10 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_MW201_220421		21/04/2022 09:22 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
065	0874_MW262_220421		21/04/2022 10:52 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
066	0874_MW257_220421		21/04/2022 11:24 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
067	0874_MW231_220421		21/04/2022 11:00 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
068	0874_MW254_220421		21/04/2022 09:15 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
069	0874_MW236_220421		21/04/2022 08:45 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
070	0874_MW238_220421		21/04/2022 11:45 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
071	0874_MW264_220421		21/04/2022 08:00 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra volume for lab QC
072	0874_MW055_220421		21/04/2022 12:07 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0874_MW054_220421		21/04/2022 12:27 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
074	0874_QC110_220421		21/04/2022 12:27 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
075	0874_MW015_220421		21/04/2022 12:49 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
076	0874_MW016_220421		21/04/2022 01:03 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
077	0874_QC120_220421		21/04/2022 01:03 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
078	0874_MW021_220421		21/04/2022 01:11 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra volume lab qc
079	0874_MW139_220421		21/04/2022 01:31 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
080	0874_MW138_220421		21/04/2022 01:39 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
081	0874_MW110_220421		21/04/2022 01:51 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
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SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
082	0874_MW109_220421		21/04/2022 02:06 PM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
083	0874_SD123_220421		21/04/2022 01:00 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
084	0874_SD019_220421		21/04/2022 12:45 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
085	0874_SD121_220421		21/04/2022 12:00 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
086	0874_SW019_220421		21/04/2022 12:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
087	0874_SW121_220421		21/04/2022 12:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
088	0874_SW123_220421		21/04/2022 01:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
089	0874_MW247_220421		21/04/2022 12:40 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
090	0874_MW248_220421		21/04/2022 12:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
091	0874_MW026_220421		21/04/2022 03:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
092	0874_MW033_220421		21/04/2022 03:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
093	0874_MW034_220421		21/04/2022 03:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
094	0874_QC308_220421		21/04/2022 04:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
095	0874_MW120_220421		21/04/2022 04:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
096	0874_MW116_220421		21/04/2022 03:10 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
097	0874_MW063_220421		21/04/2022 03:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
098	0874_MW038_220421		21/04/2022 02:30 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
099	0874_MW126_220422		22/04/2022 09:41 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
100	0874_MW013_220422		22/04/2022 09:50 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
101	0874_MW061_220422		22/04/2022 10:12 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
102	0874_SW013_220422		22/04/2022 10:41 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
103	0874_MW232_220422		22/04/2022 11:26 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
104	0874_MW470_220422		22/04/2022 12:11 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
105	0874_QC309_220422		22/04/2022 12:14 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard Info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW204_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW205_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW206_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW207_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW208_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW211_220419	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW212_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW213_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW214_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW215_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW216_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW217_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW218_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW219_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW220_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

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016	0874_MW225_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW233_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW234_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW235_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW237_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW239_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_MW240_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_MW252_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_MW255_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_MW261_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW266_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_MW267_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_MW269_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW300_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_MW467_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW471_220419	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

032	0874_MW301_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_QC115_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_QC116_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_QC117_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_QC118_220419	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_QC305_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_QC306_220419	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_QC501_220414	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW046_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_MW090_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_MW005_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_MW081_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_MW125_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_MW222_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_MW258_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_MW260_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 36480 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
1

048	0874_MW268_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_MW259_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW263_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_MW270_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_MW221_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW256_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_QC119_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_QC307_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_MW251_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_MW142_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_MW250_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_MW118_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_MW140_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_MW129_220420	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_MW203_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_MW202_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

064	0874_MW201_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_MW262_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_MW257_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW231_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_MW254_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_MW236_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
070	0874_MW238_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_MW264_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
072	0874_MW055_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
073	0874_MW054_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
074	0874_QC110_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
075	0874_MW015_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
076	0874_MW016_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
077	0874_QC120_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
078	0874_MW021_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
079	0874_MW139_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

080	0874_MW138_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
081	0874_MW110_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
082	0874_MW109_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
083	0874_SD123_220421	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
084	0874_SD019_220421	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
085	0874_SD121_220421	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
086	0874_SW019_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
087	0874_SW121_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
088	0874_SW123_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
089	0874_MW247_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
090	0874_MW248_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
091	0874_MW026_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
092	0874_MW033_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
093	0874_MW034_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
094	0874_QC308_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
095	0874_MW120_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

096	0874_MW116_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
097	0874_MW063_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
098	0874_MW038_220421	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
099	0874_MW126_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
100	0874_MW013_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
101	0874_MW061_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
102	0874_SW013_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
103	0874_MW232_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
104	0874_MW470_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
105	0874_QC309_220422	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW204_220414	HDPE (no PTFE)	20 mL	00350821027453	Grey	No	
001	0874_MW204_220414	HDPE (no PTFE)	20 mL	00350821027355	Grey	No	
002	0874_MW205_220414	HDPE (no PTFE)	20 mL	00350821027655	Grey	No	
002	0874_MW205_220414	HDPE (no PTFE)	20 mL	00350821027901	Grey	No	
002	0874_MW205_220414	HDPE (no PTFE)	20 mL	00350821027505	Grey	No	
002	0874_MW205_220414	HDPE (no PTFE)	20 mL	00350821027591	Grey	No	
003	0874_MW206_220414	HDPE (no PTFE)	20 mL	00350821027554	Grey	No	
003	0874_MW206_220414	HDPE (no PTFE)	20 mL	00350821027647	Grey	No	
004	0874_MW207_220414	HDPE (no PTFE)	20 mL	00350821027363	Grey	No	
004	0874_MW207_220414	HDPE (no PTFE)	20 mL	00350821027403	Grey	No	
005	0874_MW208_220414	HDPE (no PTFE)	20 mL	00350821027513	Grey	No	
005	0874_MW208_220414	HDPE (no PTFE)	20 mL	00350821027659	Grey	No	
006	0874_MW211_220419	HDPE (no PTFE)	20 mL	00350821027590	Grey	No	
006	0874_MW211_220419	HDPE (no PTFE)	20 mL	00350821027443	Grey	No	
007	0874_MW212_220414	HDPE (no PTFE)	20 mL	00350821027623	Grey	No	
007	0874_MW212_220414	HDPE (no PTFE)	20 mL	00350821027652	Grey	No	
008	0874_MW213_220414	HDPE (no PTFE)	20 mL	00350821027680	Grey	No	
008	0874_MW213_220414	HDPE (no PTFE)	20 mL	00350821027699	Grey	No	
009	0874_MW214_220414	HDPE (no PTFE)	20 mL	00350821027602	Grey	No	
009	0874_MW214_220414	HDPE (no PTFE)	20 mL	00350821027735	Grey	No	
010	0874_MW215_220414	HDPE (no PTFE)	20 mL	00350821027781	Grey	No	
010	0874_MW215_220414	HDPE (no PTFE)	20 mL	00350821027816	Grey	No	
011	0874_MW216_220414	HDPE (no PTFE)	20 mL	00350821027546	Grey	No	
011	0874_MW216_220414	HDPE (no PTFE)	20 mL	00350821027778	Grey	No	
012	0874_MW217_220414	HDPE (no PTFE)	20 mL	00350821027896	Grey	No	
012	0874_MW217_220414	HDPE (no PTFE)	20 mL	00350821027814	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

1

013	0874_MW218_220414	HDPE (no PTFE)	20 mL	00350821027611	Grey	No	
013	0874_MW218_220414	HDPE (no PTFE)	20 mL	00350821027568	Grey	No	
014	0874_MW219_220414	HDPE (no PTFE)	20 mL	00350821027657	Grey	No	
014	0874_MW219_220414	HDPE (no PTFE)	20 mL	00350821027511	Grey	No	
015	0874_MW220_220414	HDPE (no PTFE)	20 mL	00350821027628	Grey	No	
015	0874_MW220_220414	HDPE (no PTFE)	20 mL	00350821027636	Grey	No	
015	0874_MW220_220414	HDPE (no PTFE)	20 mL	00350821027549	Grey	No	
015	0874_MW220_220414	HDPE (no PTFE)	20 mL	00350821027756	Grey	No	
016	0874_MW225_220414	HDPE (no PTFE)	20 mL	00350821027751	Grey	No	
016	0874_MW225_220414	HDPE (no PTFE)	20 mL	00350821027775	Grey	No	
017	0874_MW233_220414	HDPE (no PTFE)	20 mL	00350821027626	Grey	No	
017	0874_MW233_220414	HDPE (no PTFE)	20 mL	00350821027351	Grey	No	
018	0874_MW234_220414	HDPE (no PTFE)	20 mL	00350821027516	Grey	No	
018	0874_MW234_220414	HDPE (no PTFE)	20 mL	00350821027514	Grey	No	
019	0874_MW235_220414	HDPE (no PTFE)	20 mL	00350821027440	Grey	No	
019	0874_MW235_220414	HDPE (no PTFE)	20 mL	00350821027594	Grey	No	
020	0874_MW237_220414	HDPE (no PTFE)	20 mL	00350821027598	Grey	No	
020	0874_MW237_220414	HDPE (no PTFE)	20 mL	00350821027576	Grey	No	
020	0874_MW237_220414	HDPE (no PTFE)	20 mL	00350821027346	Grey	No	
020	0874_MW237_220414	HDPE (no PTFE)	20 mL	00350821027629	Grey	No	
021	0874_MW239_220414	HDPE (no PTFE)	20 mL	00350821027834	Grey	No	
021	0874_MW239_220414	HDPE (no PTFE)	20 mL	00350821027340	Grey	No	
022	0874_MW240_220414	HDPE (no PTFE)	20 mL	00350821027632	Grey	No	
022	0874_MW240_220414	HDPE (no PTFE)	20 mL	00350821027492	Grey	No	
023	0874_MW252_220414	HDPE (no PTFE)	20 mL	00350821027317	Grey	No	
023	0874_MW252_220414	HDPE (no PTFE)	20 mL	00350821027565	Grey	No	
024	0874_MW255_220414	HDPE (no PTFE)	20 mL	00350821027462	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

024	0874_MW255_220414	HDPE (no PTFE)	20 mL	00350821027412	Grey	No	
025	0874_MW261_220414	HDPE (no PTFE)	20 mL	00350821027782	Grey	No	
025	0874_MW261_220414	HDPE (no PTFE)	20 mL	00350821027670	Grey	No	
026	0874_MW266_220414	HDPE (no PTFE)	20 mL	00350821027803	Grey	No	
026	0874_MW266_220414	HDPE (no PTFE)	20 mL	00350821027892	Grey	No	
027	0874_MW267_220414	HDPE (no PTFE)	20 mL	00350821027687	Grey	No	
027	0874_MW267_220414	HDPE (no PTFE)	20 mL	00350821027745	Grey	No	
028	0874_MW269_220414	HDPE (no PTFE)	20 mL	00350821027784	Grey	No	
028	0874_MW269_220414	HDPE (no PTFE)	20 mL	00350821027824	Grey	No	
029	0874_MW300_220414	HDPE (no PTFE)	20 mL	00350821027600	Grey	No	
029	0874_MW300_220414	HDPE (no PTFE)	20 mL	00350821027339	Grey	No	
029	0874_MW300_220414	HDPE (no PTFE)	20 mL	00350821027613	Grey	No	
029	0874_MW300_220414	HDPE (no PTFE)	20 mL	00350821027178	Grey	No	
030	0874_MW467_220414	HDPE (no PTFE)	20 mL	00350821027888	Grey	No	
030	0874_MW467_220414	HDPE (no PTFE)	20 mL	00350821027359	Grey	No	
030	0874_MW467_220414	HDPE (no PTFE)	20 mL	00350821027456	Grey	No	
030	0874_MW467_220414	HDPE (no PTFE)	20 mL	00350821027410	Grey	No	
031	0874_MW471_220419	HDPE (no PTFE)	20 mL	00350821027433	Grey	No	
031	0874_MW471_220419	HDPE (no PTFE)	20 mL	00350821027561	Grey	No	
032	0874_MW301_220414	HDPE (no PTFE)	20 mL	00350821027348	Grey	No	
032	0874_MW301_220414	HDPE (no PTFE)	20 mL	00350821027331	Grey	No	
033	0874_QC115_220414	HDPE (no PTFE)	20 mL	00350821027809	Grey	No	
033	0874_QC115_220414	HDPE (no PTFE)	20 mL	00350821027832	Grey	No	
034	0874_QC116_220414	HDPE (no PTFE)	20 mL	00350821027779	Grey	No	
034	0874_QC116_220414	HDPE (no PTFE)	20 mL	00350821027839	Grey	No	
035	0874_QC117_220414	HDPE (no PTFE)	20 mL	00350821027593	Grey	No	
035	0874_QC117_220414	HDPE (no PTFE)	20 mL	00350821027649	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

036	0874_QC118_220419	HDPE (no PTFE)	20 mL	00350821027325	Grey	No	
036	0874_QC118_220419	HDPE (no PTFE)	20 mL	00350821027466	Grey	No	
037	0874_QC305_220414	HDPE (no PTFE)	20 mL	00350821027504	Grey	No	
037	0874_QC305_220414	HDPE (no PTFE)	20 mL	00350821027622	Grey	No	
038	0874_QC306_220419	HDPE (no PTFE)	20 mL	00350821027396	Grey	No	
038	0874_QC306_220419	HDPE (no PTFE)	20 mL	00350821027457	Grey	No	
039	0874_QC501_220414	HDPE (no PTFE)	20 mL	00350019045308	Grey	No	
039	0874_QC501_220414	HDPE (no PTFE)	20 mL	00350019024934	Grey	No	
040	0874_MW046_220420	HDPE (no PTFE)	20 mL	00350821027318	Grey	No	
040	0874_MW046_220420	HDPE (no PTFE)	20 mL	00350821027899	Grey	No	
040	0874_MW046_220420	HDPE (no PTFE)	20 mL	00350821027486	Grey	No	
040	0874_MW046_220420	HDPE (no PTFE)	20 mL	00350821027800	Grey	No	
041	0874_MW090_220420	HDPE (no PTFE)	20 mL	00350821027882	Grey	No	
041	0874_MW090_220420	HDPE (no PTFE)	20 mL	00350821027479	Grey	No	
042	0874_MW005_220420	HDPE (no PTFE)	20 mL	00350821027738	Grey	No	
042	0874_MW005_220420	HDPE (no PTFE)	20 mL	00350821027651	Grey	No	
043	0874_MW081_220420	HDPE (no PTFE)	20 mL	00350821027849	Grey	No	
043	0874_MW081_220420	HDPE (no PTFE)	20 mL	00350821027701	Grey	No	
043	0874_MW081_220420	HDPE (no PTFE)	20 mL	00350821027734	Grey	No	
043	0874_MW081_220420	HDPE (no PTFE)	20 mL	00350821027855	Grey	No	
044	0874_MW125_220420	HDPE (no PTFE)	20 mL	00350821027319	Grey	No	
044	0874_MW125_220420	HDPE (no PTFE)	20 mL	00350821027528	Grey	No	
045	0874_MW222_220420	HDPE (no PTFE)	20 mL	00350821027654	Grey	No	
045	0874_MW222_220420	HDPE (no PTFE)	20 mL	00350821027436	Grey	No	
046	0874_MW258_220420	HDPE (no PTFE)	20 mL	00350821027459	Grey	No	
046	0874_MW258_220420	HDPE (no PTFE)	20 mL	00350821027381	Grey	No	
047	0874_MW260_220420	HDPE (no PTFE)	20 mL	00350821027714	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: C
 Other comments:

047	0874_MW260_220420	HDPE (no PTFE)	20 mL	00350821027825	Grey	No	
047	0874_MW260_220420	HDPE (no PTFE)	20 mL	00350821027796	Grey	No	
047	0874_MW260_220420	HDPE (no PTFE)	20 mL	00350821027540	Grey	No	
048	0874_MW268_220420	HDPE (no PTFE)	20 mL	00350821027747	Grey	No	
048	0874_MW268_220420	HDPE (no PTFE)	20 mL	00350821027905	Grey	No	
049	0874_MW259_220420	HDPE (no PTFE)	20 mL	00350821027712	Grey	No	
049	0874_MW259_220420	HDPE (no PTFE)	20 mL	00350821027390	Grey	No	
050	0874_MW263_220420	HDPE (no PTFE)	20 mL	00350821027700	Grey	No	
050	0874_MW263_220420	HDPE (no PTFE)	20 mL	00350821027478	Grey	No	
051	0874_MW270_220420	HDPE (no PTFE)	20 mL	00350821027789	Grey	No	
051	0874_MW270_220420	HDPE (no PTFE)	20 mL	00350821027673	Grey	No	
052	0874_MW221_220420	HDPE (no PTFE)	20 mL	00350821027692	Grey	No	
052	0874_MW221_220420	HDPE (no PTFE)	20 mL	00350821027658	Grey	No	
052	0874_MW221_220420	HDPE (no PTFE)	20 mL	00350821027338	Grey	No	
052	0874_MW221_220420	HDPE (no PTFE)	20 mL	00350821027493	Grey	No	
053	0874_MW256_220420	HDPE (no PTFE)	20 mL	00350821027688	Grey	No	
053	0874_MW256_220420	HDPE (no PTFE)	20 mL	00350821027656	Grey	No	
054	0874_QC119_220420	HDPE (no PTFE)	20 mL	00350821027454	Grey	No	
054	0874_QC119_220420	HDPE (no PTFE)	20 mL	00350821027898	Grey	No	
055	0874_QC307_220420	HDPE (no PTFE)	20 mL	00350821027707	Grey	No	
055	0874_QC307_220420	HDPE (no PTFE)	20 mL	00350821027821	Grey	No	
056	0874_MW251_220420	HDPE (no PTFE)	20 mL	00350821027557	Grey	No	
056	0874_MW251_220420	HDPE (no PTFE)	20 mL	00350821027472	Grey	No	
057	0874_MW142_220420	HDPE (no PTFE)	20 mL	00350821027860	Grey	No	
057	0874_MW142_220420	HDPE (no PTFE)	20 mL	00350821027783	Grey	No	
058	0874_MW250_220420	HDPE (no PTFE)	20 mL	00350821027890	Grey	No	
058	0874_MW250_220420	HDPE (no PTFE)	20 mL	00350821027566	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

059	0874_MW118_220420	HDPE (no PTFE)	20 mL	00350821027614	Grey	No	
059	0874_MW118_220420	HDPE (no PTFE)	20 mL	00350821027672	Grey	No	
060	0874_MW140_220420	HDPE (no PTFE)	20 mL	00350821027862	Grey	No	
060	0874_MW140_220420	HDPE (no PTFE)	20 mL	00350821027886	Grey	No	
061	0874_MW129_220420	HDPE (no PTFE)	20 mL	00350821027570	Grey	No	
061	0874_MW129_220420	HDPE (no PTFE)	20 mL	00350821027730	Grey	No	
062	0874_MW203_220421	HDPE (no PTFE)	20 mL	00350821027871	Grey	No	
062	0874_MW203_220421	HDPE (no PTFE)	20 mL	00350821027743	Grey	No	
062	0874_MW203_220421	HDPE (no PTFE)	20 mL	00350821027435	Grey	No	
062	0874_MW203_220421	HDPE (no PTFE)	20 mL	00350821027826	Grey	No	
063	0874_MW202_220421	HDPE (no PTFE)	20 mL	00350821027820	Grey	No	
063	0874_MW202_220421	HDPE (no PTFE)	20 mL	00350821027494	Grey	No	
064	0874_MW201_220421	HDPE (no PTFE)	20 mL	00350821027907	Grey	No	
064	0874_MW201_220421	HDPE (no PTFE)	20 mL	00350821027870	Grey	No	
065	0874_MW262_220421	HDPE (no PTFE)	20 mL	00350821027463	Grey	No	
065	0874_MW262_220421	HDPE (no PTFE)	20 mL	00350821027792	Grey	No	
065	0874_MW262_220421	HDPE (no PTFE)	20 mL	00350821027791	Grey	No	
065	0874_MW262_220421	HDPE (no PTFE)	20 mL	00350821027810	Grey	No	
066	0874_MW257_220421	HDPE (no PTFE)	20 mL	00350821027750	Grey	No	
066	0874_MW257_220421	HDPE (no PTFE)	20 mL	00350821027587	Grey	No	
067	0874_MW231_220421	HDPE (no PTFE)	20 mL	00350821027601	Grey	No	
067	0874_MW231_220421	HDPE (no PTFE)	20 mL	00350821027542	Grey	No	
068	0874_MW254_220421	HDPE (no PTFE)	20 mL	00350821027424	Grey	No	
068	0874_MW254_220421	HDPE (no PTFE)	20 mL	00350821027349	Grey	No	
069	0874_MW236_220421	HDPE (no PTFE)	20 mL	00350821027868	Grey	No	
069	0874_MW236_220421	HDPE (no PTFE)	20 mL	00350821027864	Grey	No	
070	0874_MW238_220421	HDPE (no PTFE)	20 mL	00350821027491	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

070	0874_MW238_220421	HDPE (no PTFE)	20 mL	00350821027852	Grey	No	
071	0874_MW264_220421	HDPE (no PTFE)	20 mL	00350821027438	Grey	No	
071	0874_MW264_220421	HDPE (no PTFE)	20 mL	00350821027555	Grey	No	
071	0874_MW264_220421	HDPE (no PTFE)	20 mL	00350821027798	Grey	No	
071	0874_MW264_220421	HDPE (no PTFE)	20 mL	00350821027694	Grey	No	
072	0874_MW055_220421	HDPE (no PTFE)	20 mL	00350821027777	Grey	No	
072	0874_MW055_220421	HDPE (no PTFE)	20 mL	00350821027876	Grey	No	
073	0874_MW054_220421	HDPE (no PTFE)	20 mL	00350821027661	Grey	No	
073	0874_MW054_220421	HDPE (no PTFE)	20 mL	00350821027378	Grey	No	
074	0874_QC110_220421	HDPE (no PTFE)	20 mL	00350821027615	Grey	No	
074	0874_QC110_220421	HDPE (no PTFE)	20 mL	00350821027808	Grey	No	
075	0874_MW015_220421	HDPE (no PTFE)	20 mL	00350821027774	Grey	No	
075	0874_MW015_220421	HDPE (no PTFE)	20 mL	00350821027766	Grey	No	
076	0874_MW016_220421	HDPE (no PTFE)	20 mL	00350821027449	Grey	No	
076	0874_MW016_220421	HDPE (no PTFE)	20 mL	00350821027733	Grey	No	
077	0874_QC120_220421	HDPE (no PTFE)	20 mL	00350821027754	Grey	No	
077	0874_QC120_220421	HDPE (no PTFE)	20 mL	00350821027627	Grey	No	
078	0874_MW021_220421	HDPE (no PTFE)	20 mL	00350821027861	Grey	No	
078	0874_MW021_220421	HDPE (no PTFE)	20 mL	00350821027894	Grey	No	
078	0874_MW021_220421	HDPE (no PTFE)	20 mL	00350821027662	Grey	No	
078	0874_MW021_220421	HDPE (no PTFE)	20 mL	00350821027887	Grey	No	
079	0874_MW139_220421	HDPE (no PTFE)	20 mL	00350821027740	Grey	No	
079	0874_MW139_220421	HDPE (no PTFE)	20 mL	00350821027388	Grey	No	
080	0874_MW138_220421	HDPE (no PTFE)	20 mL	00350821027845	Grey	No	
080	0874_MW138_220421	HDPE (no PTFE)	20 mL	00350821027376	Grey	No	
081	0874_MW110_220421	HDPE (no PTFE)	20 mL	00350821027530	Grey	No	
081	0874_MW110_220421	HDPE (no PTFE)	20 mL	00350821027379	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

082	0874_MW109_220421	HDPE (no PTFE)	20 mL	00350821027838	Grey	No	
082	0874_MW109_220421	HDPE (no PTFE)	20 mL	00350821027671	Grey	No	
082	0874_MW109_220421	HDPE (no PTFE)	20 mL	00350821027366	Grey	No	
082	0874_MW109_220421	HDPE (no PTFE)	20 mL	00350821027763	Grey	No	
083	0874_SD123_220421	HDPE Soil Jar	200 mL	00620719026175	Grey	No	
084	0874_SD019_220421	HDPE Soil Jar	200 mL	00620719026158	Grey	No	
085	0874_SD121_220421	HDPE Soil Jar	200 mL	00620719053497	Grey	No	
086	0874_SW019_220421	HDPE (no PTFE)	20 mL	00350821027650	Grey	No	
086	0874_SW019_220421	HDPE (no PTFE)	20 mL	00350821027780	Grey	No	
087	0874_SW121_220421	HDPE (no PTFE)	20 mL	00350821027819	Grey	No	
087	0874_SW121_220421	HDPE (no PTFE)	20 mL	00350821027422	Grey	No	
088	0874_SW123_220421	HDPE (no PTFE)	20 mL	00350821027347	Grey	No	
088	0874_SW123_220421	HDPE (no PTFE)	20 mL	00350821027423	Grey	No	
089	0874_MW247_220421	HDPE (no PTFE)	20 mL	00350821027596	Grey	No	
089	0874_MW247_220421	HDPE (no PTFE)	20 mL	00350821027447	Grey	No	
090	0874_MW248_220421	HDPE (no PTFE)	20 mL	00350821027753	Grey	No	
090	0874_MW248_220421	HDPE (no PTFE)	20 mL	00350821027813	Grey	No	
091	0874_MW026_220421	HDPE (no PTFE)	20 mL	00350821027880	Grey	No	
091	0874_MW026_220421	HDPE (no PTFE)	20 mL	00350821027501	Grey	No	
092	0874_MW033_220421	HDPE (no PTFE)	20 mL	00350821027330	Grey	No	
092	0874_MW033_220421	HDPE (no PTFE)	20 mL	00350821027865	Grey	No	
093	0874_MW034_220421	HDPE (no PTFE)	20 mL	00350821027811	Grey	No	
093	0874_MW034_220421	HDPE (no PTFE)	20 mL	00350821027446	Grey	No	
094	0874_QC308_220421	HDPE (no PTFE)	20 mL	00350821027617	Grey	No	
094	0874_QC308_220421	HDPE (no PTFE)	20 mL	00350821027908	Grey	No	
095	0874_MW120_220421	HDPE (no PTFE)	20 mL	00350821027407	Grey	No	
095	0874_MW120_220421	HDPE (no PTFE)	20 mL	00350821027371	Grey	No	

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

096	0874_MW116_220421	HDPE (no PTFE)	20 mL	00350821027693	Grey	No	
096	0874_MW116_220421	HDPE (no PTFE)	20 mL	00350821027559	Grey	No	
097	0874_MW063_220421	HDPE (no PTFE)	20 mL	00350821027475	Grey	No	
097	0874_MW063_220421	HDPE (no PTFE)	20 mL	00350821027333	Grey	No	
098	0874_MW038_220421	HDPE (no PTFE)	20 mL	00350821027642	Grey	No	
098	0874_MW038_220421	HDPE (no PTFE)	20 mL	00350821027805	Grey	No	
099	0874_MW126_220422	HDPE (no PTFE)	20 mL	00350821027889	Grey	No	
099	0874_MW126_220422	HDPE (no PTFE)	20 mL	00350821027383	Grey	No	
099	0874_MW126_220422	HDPE (no PTFE)	20 mL	00350821027678	Grey	No	
099	0874_MW126_220422	HDPE (no PTFE)	20 mL	00350821027749	Grey	No	
100	0874_MW013_220422	HDPE (no PTFE)	20 mL	00350821027606	Grey	No	
100	0874_MW013_220422	HDPE (no PTFE)	20 mL	00350821027769	Grey	No	
101	0874_MW061_220422	HDPE (no PTFE)	20 mL	00350821027885	Grey	No	
101	0874_MW061_220422	HDPE (no PTFE)	20 mL	00350821027523	Grey	No	
102	0874_SW013_220422	HDPE (no PTFE)	20 mL	00350821027773	Grey	No	
102	0874_SW013_220422	HDPE (no PTFE)	20 mL	00350821027877	Grey	No	
103	0874_MW232_220422	HDPE (no PTFE)	20 mL	00350821027328	Grey	No	
103	0874_MW232_220422	HDPE (no PTFE)	20 mL	00350821027723	Grey	No	
104	0874_MW470_220422	HDPE (no PTFE)	20 mL	00350821027828	Grey	No	
104	0874_MW470_220422	HDPE (no PTFE)	20 mL	00350821027732	Grey	No	
105	0874_QC309_220422	HDPE (no PTFE)	20 mL	00350821027848	Grey	No	
105	0874_QC309_220422	HDPE (no PTFE)	20 mL	00350821027669	Grey	No	

Total Bottle Count: ALS: 237, Non ALS: 0



Environmental Division
Townsville
Work Order Reference
ET2202514



Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PFASOMP Client: AELOM

Project Manager

ALS Compass COC Reference: 37135 # Samples: 184

Phone:

Turnaround Requirements: Standard Urgent

Sampler:

Phone:

Special Instructions:

Custody:

Date / Time: <u>6/5/22</u> <u>0920</u>	Date / Time: <u>6/5/22</u> <u>9.20am</u>	Date / Time:	Date / Time: <u>10.05.22</u> <u>08:40</u>
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RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW202_220505		05/05/2022 07:18 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
002	0874_SD202_220505		05/05/2022 07:19 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
003	0874_SW205_220505		05/05/2022 07:59 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
004	0874_SD205_220505		05/05/2022 08:00 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
005	0874_SW206_220505		05/05/2022 08:25 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
006	0874_SD206_220505		05/05/2022 08:26 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
007	0874_SW207_220505		05/05/2022 08:47 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
008	0874_SD207_220505		05/05/2022 08:47 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
009	0874_SW203_220505		05/05/2022 09:12 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SD203_220505		05/05/2022 09:13 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
011	0874_SW204_220505		05/05/2022 09:31 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol lab qc
012	0874_SD204_220505		05/05/2022 09:32 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_QC350_220505		05/05/2022 09:32 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
014	0874_QC550_220505		05/05/2022 10:32 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW202_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SD202_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
003	0874_SW205_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SD205_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
005	0874_SW206_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SD206_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
007	0874_SW207_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SD207_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
009	0874_SW203_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SD203_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
011	0874_SW204_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SD204_220505	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_QC350_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_QC550_220505	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW202_220505	HDPE (no PTFE)	20 mL	00352010065455	Grey	No	
001	0874_SW202_220505	HDPE (no PTFE)	20 mL	00352010056606	Grey	No	
001	0874_SW202_220505	HDPE (no PTFE)	20 mL	00352010056522	Grey	No	
001	0874_SW202_220505	HDPE (no PTFE)	20 mL	00352010065429	Grey	No	
002	0874_SD202_220505	HDPE Soil Jar	200 mL	00620719071560	Grey	No	
003	0874_SW205_220505	HDPE (no PTFE)	20 mL	00352101016096	Grey	No	
003	0874_SW205_220505	HDPE (no PTFE)	20 mL	00352101015981	Grey	No	
004	0874_SD205_220505	HDPE Soil Jar	200 mL	00620719026179	Grey	No	
005	0874_SW206_220505	HDPE (no PTFE)	20 mL	00350019152632	Grey	No	
005	0874_SW206_220505	HDPE (no PTFE)	20 mL	00352010065591	Grey	No	
005	0874_SW206_220505	HDPE (no PTFE)	20 mL	00350019033307	Grey	No	
005	0874_SW206_220505	HDPE (no PTFE)	20 mL	00352010065684	Grey	No	
006	0874_SD206_220505	HDPE Soil Jar	200 mL	00620719026240	Grey	No	
007	0874_SW207_220505	HDPE (no PTFE)	20 mL	00352010065423	Grey	No	
007	0874_SW207_220505	HDPE (no PTFE)	20 mL	00352010065471	Grey	No	
008	0874_SD207_220505	HDPE Soil Jar	200 mL	00620719071599	Grey	No	
009	0874_SW203_220505	HDPE (no PTFE)	20 mL	00352010065695	Grey	No	
009	0874_SW203_220505	HDPE (no PTFE)	20 mL	00352010065504	Grey	No	
010	0874_SD203_220505	HDPE Soil Jar	200 mL	00620719026216	Grey	No	
011	0874_SW204_220505	HDPE (no PTFE)	20 mL	00350019152576	Grey	No	
011	0874_SW204_220505	HDPE (no PTFE)	20 mL	00352010057880	Grey	No	
011	0874_SW204_220505	HDPE (no PTFE)	20 mL	00352010065653	Grey	No	
011	0874_SW204_220505	HDPE (no PTFE)	20 mL	00352010065680	Grey	No	
012	0874_SD204_220505	HDPE Soil Jar	200 mL	00620719026172	Grey	No	
013	0874_QC350_220505	HDPE (no PTFE)	20 mL	00352010057883	Grey	No	
013	0874_QC350_220505	HDPE (no PTFE)	20 mL	00352010057927	Grey	No	



CHAIN OF CUSTODY

COC#: 37135 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014	0874_QC550_220505	HDPE (no PTFE)	20 mL	00350621030191	Grey	No	
014	0874_QC550_220505	HDPE (no PTFE)	20 mL	00350621030177	Grey	No	

Total Bottle Count: ALS: 28, Non ALS: 0

✓ 5/5 5/5

CHAIN OF CUSTODY DOCUMENTATION							DESTINATION LABORATORY:												
CLIENT: AECOM Australia				SAMPLER: [REDACTED]			NMI												
ADDRESS / OFFICE: AECOM Townsville [REDACTED]				MOBILE: [REDACTED]															
PROJECT MANAGER (PM) [REDACTED]				PHONE: [REDACTED]															
PROJECT ID: QLD_0874_PFA5OMP				EMAIL REPORT TO: [REDACTED]															
SITE: QLD_0874 P.O. NO.: 60612487_2.1				EMAIL INVOICE TO: (if different to report) [REDACTED]															
RESULTS REQUIRED (Date): Standard TAT QUOTE NO.:				ANALYSIS REQUIRED															
FOR LABORATORY USE ONLY		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:					Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc. <div style="font-size: 2em; font-family: cursive;">AEC006/220422/A</div>												
COOLER SEAL (circle appropriate)																			
Intact: Yes No N/A																			
SAMPLE TEMPERATURE																			
CHILLED: Yes No							<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED 28 APR 2022 </div>												
SAMPLE INFORMATION (note: S = Soil, W=Water)			CONTAINER INFORMATION			<div style="border: 1px solid black; padding: 5px; display: inline-block;"> RECEIVED 28 APR 2022 </div>													
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code				Total bottles	WATER - PFAS Standard 28 analyses	SOIL - PFAS Standard 28 analyses	HOLD							
	0874_QC200_220411	W	11.04.2022		2 x P	2	X			N22/007833									
	0874_QC201_220411	S	11.04.2022		1 x P	1		X											
	0874_QC202_220412	W	12.04.2022		2 x P	2	X												
	0874_QC203_220412	S	12.04.2022		1 x P	1		X											
	0874_QC204_220412	W	12.04.2022		2 x P	2	X												
	0874_QC205_220412	S	12.04.2022		1 x P	1		X											
	0874_QC206_220413	W	13.04.2022		2 x P	2	X												
	0874_QC207_220413	S	13.04.2022		1 x P	1		X											
	0874_QC208_220413	W	13.04.2022		2 x P	2	X												
	0874_QC209_220413	S	13.04.2022		1 x P	1		X											
	0874_QC210_220421	W	21.04.2022		2 x P	2	X												
	0874_QC211_220412	W	12.04.2022		2 x P	2	X												
	0874_QC212_220412	W	12.04.2022		2 x P	2	X												
	0874_QC213_220413	W	13.04.2022		2 x P	2	X												
	0874_QC214_220413	W	13.04.2022		2 x P	2	X												High concentration expected
	0874_QC215_220414	W	14.04.2022		2 x P	2	X												
	0874_QC216_220414	W	14.04.2022		2 x P	2	X												
	0874_QC217_220414	W	14.04.2022		2 x P	2	X												
	0874_QC218_220419	W	19.04.2022		2 x P	2	X												
	0874_QC219_220420	W	20.04.2022		2 x P	2	X												
	0874_QC220_220421	W	21.04.2022		2 x P	2	X												High concentration expected
	0874_QC502_220426	W	26.04.2022		2 x P	2	X												
RELINQUISHED BY: [REDACTED]				26/4/22			RECEIVED BY:			METHOD OF SHIPMENT:									
Name: [REDACTED]				Time: 1300			Name:			Con' Note No:									
Of: AECOM							Of:												
Name:				Date:			Name:			Date:									
Of:				Time:			Of:			Time:									
Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag																			

Appendix E

Laboratory Analytical Reports

CERTIFICATE OF ANALYSIS

Work Order : **ET2202209**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : ██████████
Address :
 BRISBANE
Telephone : ----
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 36219
Sampler : ██████████
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 109
No. of samples analysed : 107

Page : 1 of 49
Laboratory : Environmental Division Townsville
Contact : ██████████
Address : ██████████
Telephone : ██████████
Date Samples Received : 21-Apr-2022 08:30
Date Analysis Commenced : 29-Apr-2022
Issue Date : 11-May-2022 12:22



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
██████████	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
██████████	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
██████████	2IC Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: Sample "0874_SD125_220413" shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- \$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: The LOR values of particular analytes for particular samples have been raised due to matrix interferences.
- EP231X PFAS: Whole bottle extraction was not possible for particular samples. Samples required dilution prior to extraction due to matrix interference (sediment) or the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Sample '0874_SD125_220413' (ET2202209-090) required dilution prior to analysis due to the presence of high level contaminants. LOR values have been adjusted accordingly. Surrogate recoveries were unable to be determined.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD021_220411	0874_SD127_220411	0874_SD129_220411	0874_SD017_220411	0874_SD120_220411
Sampling date / time				11-Apr-2022 12:45	11-Apr-2022 13:45	11-Apr-2022 14:10	11-Apr-2022 13:10	11-Apr-2022 13:25	
Compound	CAS Number	LOR	Unit	ET2202209-014	ET2202209-015	ET2202209-016	ET2202209-017	ET2202209-018	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	52.7	32.2	21.3	23.1	20.1	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0004	<0.0002	0.0004	<0.0002	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD021_220411	0874_SD127_220411	0874_SD129_220411	0874_SD017_220411	0874_SD120_220411
Sampling date / time				11-Apr-2022 12:45	11-Apr-2022 13:45	11-Apr-2022 14:10	11-Apr-2022 13:10	11-Apr-2022 13:25	
Compound	CAS Number	LOR	Unit	ET2202209-014	ET2202209-015	ET2202209-016	ET2202209-017	ET2202209-018	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0005	0.0004	<0.0002	0.0004	<0.0002	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0005	0.0004	<0.0002	0.0004	<0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0005	0.0004	<0.0002	0.0004	<0.0002	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	123	98.0	108	122	110	
13C8-PFOA	----	0.0002	%	96.0	103	110	106	103	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD201_220411	0874_SD118_220411	0874_SD119_220411	0874_QC101_220411	0874_SD117_220411
Sampling date / time					11-Apr-2022 14:45	11-Apr-2022 16:00	11-Apr-2022 15:20	11-Apr-2022 14:10	11-Apr-2022 15:45
Compound	CAS Number	LOR	Unit	ET2202209-019	ET2202209-020	ET2202209-021	ET2202209-022	ET2202209-023	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	30.6	69.8	23.3	20.9	21.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0017	0.0005	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0018	0.0004	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0125	0.0035	<0.0002	0.0012	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0018	0.0006	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0004	0.128	0.0244	<0.0004	0.0072	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0042	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0012	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0033	0.0009	<0.0002	0.0004	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0016	0.0005	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD201_220411	0874_SD118_220411	0874_SD119_220411	0874_QC101_220411	0874_SD117_220411
Sampling date / time				11-Apr-2022 14:45	11-Apr-2022 16:00	11-Apr-2022 15:20	11-Apr-2022 14:10	11-Apr-2022 15:45	
Compound	CAS Number	LOR	Unit	ET2202209-019	ET2202209-020	ET2202209-021	ET2202209-022	ET2202209-023	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	0.156	0.0308	<0.0002	0.0088	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.140	0.0279	<0.0002	0.0084	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	0.148	0.0298	<0.0002	0.0088	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	116	106	111	134	130	
13C8-PFOA	----	0.0002	%	106	104	105	120	114	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD114_220411	0874_QC105_220412	0874_SD115_220412	0874_SD113_220412	0874_SD108_220412
Sampling date / time				11-Apr-2022 16:15	12-Apr-2022 16:51	12-Apr-2022 16:52	12-Apr-2022 16:52	12-Apr-2022 16:53	
Compound	CAS Number	LOR	Unit	ET2202209-024	ET2202209-040	ET2202209-041	ET2202209-042	ET2202209-043	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	54.8	45.3	29.0	73.5	26.6	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0015	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0005	0.0202	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0020	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0089	0.0099	0.0141	0.138	0.0013	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0016	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD114_220411	0874_QC105_220412	0874_SD115_220412	0874_SD113_220412	0874_SD108_220412
Sampling date / time				11-Apr-2022 16:15	12-Apr-2022 16:51	12-Apr-2022 16:52	12-Apr-2022 16:52	12-Apr-2022 16:53	
Compound	CAS Number	LOR	Unit	ET2202209-024	ET2202209-040	ET2202209-041	ET2202209-042	ET2202209-043	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0091	0.0101	0.0146	0.165	0.0013	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0091	0.0101	0.0146	0.158	0.0013	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0091	0.0101	0.0146	0.162	0.0013	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	128	114	124	98.0	88.0	
13C8-PFOA	----	0.0002	%	112	102	108	106	98.0	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD109_220412	0874_SD110_220412	0874_SD208_220412	0874_SD116_220412	0874_SD107_220412
Sampling date / time				12-Apr-2022 16:54	12-Apr-2022 16:54	12-Apr-2022 16:55	12-Apr-2022 15:30	12-Apr-2022 14:15	
Compound	CAS Number	LOR	Unit	ET2202209-044	ET2202209-045	ET2202209-046	ET2202209-047	ET2202209-048	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	30.3	28.4	40.3	43.4	39.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0007	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0010	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0125	<0.0002	<0.0002	0.0045	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0009	<0.0002	<0.0002	0.0003	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0004	0.0394	0.0022	0.0046	0.0185	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0022	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD109_220412	0874_SD110_220412	0874_SD208_220412	0874_SD116_220412	0874_SD107_220412
Sampling date / time				12-Apr-2022 16:54	12-Apr-2022 16:54	12-Apr-2022 16:55	12-Apr-2022 15:30	12-Apr-2022 14:15	
Compound	CAS Number	LOR	Unit	ET2202209-044	ET2202209-045	ET2202209-046	ET2202209-047	ET2202209-048	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	0.0578	0.0022	0.0046	0.0233	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.0519	0.0022	0.0046	0.0230	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	0.0559	0.0022	0.0046	0.0230	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	126	100	110	100	106	
13C8-PFOA	----	0.0002	%	122	110	104	104	104	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD112_220412	0874_QC103_220412	0874_SD111_220412	0874_SD210_220412	0874_SD131_220413
Sampling date / time					12-Apr-2022 10:00	12-Apr-2022 13:10	12-Apr-2022 13:45	12-Apr-2022 12:45	13-Apr-2022 09:09
Compound	CAS Number	LOR	Unit	ET2202209-049	ET2202209-050	ET2202209-051	ET2202209-054	ET2202209-069	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	40.8	31.2	55.5	41.4	45.9	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0005	0.0007	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.0010	0.0010	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0163	0.0147	<0.0002	0.0015	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0010	0.0011	<0.0002	0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0026	0.0400	0.0824	0.0003	0.0327	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0002	<0.0004	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0021	0.0014	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0009	0.0010	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD112_220412	0874_QC103_220412	0874_SD111_220412	0874_SD210_220412	0874_SD131_220413
Sampling date / time					12-Apr-2022 10:00	12-Apr-2022 13:10	12-Apr-2022 13:45	12-Apr-2022 12:45	13-Apr-2022 09:09
Compound	CAS Number	LOR	Unit	ET2202209-049	ET2202209-050	ET2202209-051	ET2202209-054	ET2202209-069	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0028	0.0623	0.102	0.0003	0.0352	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0028	0.0563	0.0971	0.0003	0.0342	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0028	0.0603	0.100	0.0003	0.0342	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	130	128	100	105	108	
13C8-PFOA	----	0.0002	%	127	120	106	108	102	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_220413	0874_SD102_220413	0874_SD016_220413	0874_SD132_220413	0874_QC109_220413
Sampling date / time				13-Apr-2022 09:11	13-Apr-2022 14:30	13-Apr-2022 15:10	13-Apr-2022 16:11	13-Apr-2022 14:30	
Compound	CAS Number	LOR	Unit	ET2202209-071	ET2202209-086	ET2202209-087	ET2202209-088	ET2202209-089	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	33.1	77.7	40.3	26.1	75.9	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0015	0.0048	<0.0002	0.0006	0.0040	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0016	0.0035	<0.0002	0.0007	0.0030	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0180	0.0311	0.0014	0.0048	0.0280	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0022	0.0017	<0.0002	0.0005	0.0016	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.151	0.129	0.0069	0.0250	0.130	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0070	0.0003	0.0003	<0.0002	0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0004	0.0008	<0.0002	0.0002	0.0007	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0023	0.0055	<0.0002	0.0015	0.0051	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	0.0004	<0.0002	0.0002	0.0003	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0017	0.0030	<0.0002	0.0008	0.0025	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD126_220413	0874_SD102_220413	0874_SD016_220413	0874_SD132_220413	0874_QC109_220413
Sampling date / time					13-Apr-2022 09:11	13-Apr-2022 14:30	13-Apr-2022 15:10	13-Apr-2022 16:11	13-Apr-2022 14:30
Compound	CAS Number	LOR	Unit		ET2202209-071	ET2202209-086	ET2202209-087	ET2202209-088	ET2202209-089
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.186	0.180	0.0086	0.0343	0.175	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.169	0.160	0.0083	0.0298	0.158	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.175	0.175	0.0083	0.0331	0.171	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	117	106	118	110	122	
13C8-PFOA	----	0.0002	%	122	119	111	112	116	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD125_220413	0874_SD001_220413	0874_QC107_220413	0874_SD010_220413	0874_SD013_220413
Sampling date / time				13-Apr-2022 14:00	13-Apr-2022 15:30	13-Apr-2022 13:10	13-Apr-2022 13:10	13-Apr-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2202209-090	ET2202209-091	ET2202209-092	ET2202209-093	ET2202209-094	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	44.1	22.2	43.7	45.2	7.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0009	0.0005	<0.0002	<0.0002	0.0008	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0015	0.0005	<0.0002	<0.0002	0.0007	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0380	0.0032	0.0012	0.0002	0.0093	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0031	0.0003	<0.0002	<0.0002	0.0010	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.327	0.0185	0.0260	0.0060	0.0594	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0069	0.0002	0.0006	<0.0002	0.0006	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	0.0003	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0034	0.0012	<0.0002	<0.0002	0.0014	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0013	0.0006	0.0002	<0.0002	0.0006	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD125_220413	0874_SD001_220413	0874_QC107_220413	0874_SD010_220413	0874_SD013_220413
Sampling date / time				13-Apr-2022 14:00	13-Apr-2022 15:30	13-Apr-2022 13:10	13-Apr-2022 13:10	13-Apr-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2202209-090	ET2202209-091	ET2202209-092	ET2202209-093	ET2202209-094	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.382	0.0250	0.0280	0.0062	0.0741	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.365	0.0217	0.0272	0.0062	0.0687	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.371	0.0240	0.0274	0.0062	0.0718	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	Not Determined	136	135	121	105	
13C8-PFOA	----	0.0002	%	Not Determined	118	128	112	122	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD106_220413	0874_SD014_220413	0874_SD209_220413	----	----
		Sampling date / time		13-Apr-2022 11:45	13-Apr-2022 12:30	13-Apr-2022 12:00	----	----
Compound	CAS Number	LOR	Unit	ET2202209-095	ET2202209-096	ET2202209-097	-----	-----
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	29.6	14.8	38.1	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0010	<0.0002	0.0009	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0252	0.0004	0.0322	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0008	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD106_220413	0874_SD014_220413	0874_SD209_220413	----	----
Sampling date / time				13-Apr-2022 11:45	13-Apr-2022 12:30	13-Apr-2022 12:00	----	----	
Compound	CAS Number	LOR	Unit	ET2202209-095	ET2202209-096	ET2202209-097	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0262	0.0004	0.0339	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0262	0.0004	0.0331	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0262	0.0004	0.0331	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	132	134	103	----	----	
13C8-PFOA	----	0.0002	%	130	122	112	----	----	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW209_220413	0874_QC108_220413	0874_QC303_220413	0874_SW102_220413	0874_SW106_220413
Sampling date / time				13-Apr-2022 12:00	13-Apr-2022 14:30	13-Apr-2022 15:15	13-Apr-2022 14:30	13-Apr-2022 16:36	
Compound	CAS Number	LOR	Unit	ET2202209-098	ET2202209-099	ET2202209-100	ET2202209-101	ET2202209-102	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.66	<0.02	0.64	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.37	<0.02	0.52	0.03	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.24	2.30	<0.01	2.91	0.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.08	<0.02	0.08	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.52	1.89	<0.01	1.70	0.81	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	<0.1	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.14	<0.02	0.13	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.80	<0.02	0.72	0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.05	<0.02	0.05	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.12	<0.01	0.11	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW209_220413	0874_QC108_220413	0874_QC303_220413	0874_SW102_220413	0874_SW106_220413
Sampling date / time				13-Apr-2022 12:00	13-Apr-2022 14:30	13-Apr-2022 15:15	13-Apr-2022 14:30	13-Apr-2022 16:36	
Compound	CAS Number	LOR	Unit	ET2202209-098	ET2202209-099	ET2202209-100	ET2202209-101	ET2202209-102	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.85	6.51	<0.01	7.06	1.34	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.76	4.19	<0.01	4.61	1.19	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.85	6.06	<0.01	6.46	1.29	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	113	104	102	98.4	
13C8-PFOA	----	0.02	%	103	106	97.9	106	96.7	



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	0874_SW001_220413	0874_SW125_220413	0874_SW010_220413	0874_QC106_220413	0874_SW132_220413
				Sampling date / time	13-Apr-2022 13:30	13-Apr-2022 14:00	13-Apr-2022 13:10	13-Apr-2022 13:10	13-Apr-2022 13:40
Compound	CAS Number	LOR	Unit	ET2202209-103	ET2202209-104	ET2202209-105	ET2202209-106	ET2202209-107	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.77	0.67	<0.05	<0.05	1.63	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.99	0.72	0.02	<0.02	1.74	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	10.1	4.59	0.19	0.19	9.20	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.65	0.12	<0.02	<0.02	0.65	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	18.7	1.38	0.29	0.28	15.3	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	0.2	<0.1	<0.1	0.4	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.79	0.32	0.13	0.13	0.76	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.00	1.77	0.13	0.13	3.51	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.66	0.14	0.07	0.08	0.56	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.38	0.16	0.08	0.09	1.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.09	<0.02	<0.02	<0.02	0.04	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.10	<0.06	<0.05	<0.05	<0.10	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.10	<0.06	<0.05	<0.05	<0.10	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.10	<0.06	<0.05	<0.05	<0.10	



Analytical Results

Sub-Matrix: SURFACE WATER
 (Matrix: WATER)

Sample ID

				0874_SW001_220413	0874_SW125_220413	0874_SW010_220413	0874_QC106_220413	0874_SW132_220413
Sampling date / time				13-Apr-2022 13:30	13-Apr-2022 14:00	13-Apr-2022 13:10	13-Apr-2022 13:10	13-Apr-2022 13:40
Compound	CAS Number	LOR	Unit	ET2202209-103	ET2202209-104	ET2202209-105	ET2202209-106	ET2202209-107
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.10	<0.06	<0.05	<0.05	<0.10
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.10	<0.06	<0.05	<0.05	<0.10
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.04
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	40.6	10.1	0.91	0.90	34.8
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	28.8	5.97	0.48	0.47	24.5
Sum of PFAS (WA DER List)	----	0.01	µg/L	37.9	9.23	0.89	0.90	32.4
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	105	109	100	98.7	113
13C8-PFOA	----	0.02	%	101	104	106	108	109



Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)		Sample ID		0874_SW016_220413	----	----	----	----
		Sampling date / time		13-Apr-2022 16:47	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2202209-109	-----	-----	-----	-----
				Result	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.47	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.24	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.15	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SURFACE WATER
 (Matrix: WATER)

Sample ID

0874_SW016_220413

				Sampling date / time				
				13-Apr-2022 16:47	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2202209-109	-----	-----	-----	-----
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	1.06	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.71	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.00	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	108	----	----	----	----
13C8-PFOA	----	0.02	%	107	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_220411	0874_QC300_220411	0874_SW120_220411	0874_SW118_220411	0874_SW127_220411
Sampling date / time				11-Apr-2022 13:10	11-Apr-2022 17:02	11-Apr-2022 13:25	11-Apr-2022 16:00	11-Apr-2022 13:45	
Compound	CAS Number	LOR	Unit	ET2202209-001	ET2202209-002	ET2202209-003	ET2202209-004	ET2202209-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.04	<0.02	0.03	0.56	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.49	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	<0.01	0.13	2.75	0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.15	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	<0.01	0.14	2.93	0.02	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.02	0.25	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.04	1.17	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.19	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	<0.01	0.03	0.31	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW017_220411	0874_QC300_220411	0874_SW120_220411	0874_SW118_220411	0874_SW127_220411
Sampling date / time				11-Apr-2022 13:10	11-Apr-2022 17:02	11-Apr-2022 13:25	11-Apr-2022 16:00	11-Apr-2022 13:45	
Compound	CAS Number	LOR	Unit	ET2202209-001	ET2202209-002	ET2202209-003	ET2202209-004	ET2202209-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.12	<0.01	0.39	8.90	0.04	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	<0.01	0.27	5.68	0.04	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.12	<0.01	0.39	8.26	0.04	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	99.6	101	114	95.8	101	
13C8-PFOA	----	0.02	%	101	107	108	104	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_220411	0874_SW114_220411	0874_SW129_220411	0874_SW117_220411	0874_QC500_220411
Sampling date / time				11-Apr-2022 14:45	11-Apr-2022 16:15	11-Apr-2022 14:10	11-Apr-2022 15:45	11-Apr-2022 12:00	
Compound	CAS Number	LOR	Unit	ET2202209-006	ET2202209-007	ET2202209-008	ET2202209-009	ET2202209-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.62	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.55	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.01	<0.02	3.12	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.21	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.03	<0.02	4.32	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.30	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	1.44	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.20	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.02	0.41	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.06	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.06	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.06	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_220411	0874_SW114_220411	0874_SW129_220411	0874_SW117_220411	0874_QC500_220411
Sampling date / time					11-Apr-2022 14:45	11-Apr-2022 16:15	11-Apr-2022 14:10	11-Apr-2022 15:45	11-Apr-2022 12:00
Compound	CAS Number	LOR	Unit	ET2202209-006	ET2202209-007	ET2202209-008	ET2202209-009	ET2202209-010	ET2202209-010
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.06	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.06	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.04	<0.02	11.4	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.04	<0.02	7.44	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.04	<0.02	10.6	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	117	97.9	115	107	101	101
13C8-PFOA	----	0.02	%	101	102	101	99.7	102	102



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW119_220411	0874_SW021_220411	0874_QC100_220411	0874_MW265_220412	0874_MW243_220412
Sampling date / time				11-Apr-2022 15:20	11-Apr-2022 12:45	11-Apr-2022 14:10	12-Apr-2022 12:17	12-Apr-2022 12:17	
Compound	CAS Number	LOR	Unit	ET2202209-011	ET2202209-012	ET2202209-013	ET2202209-025	ET2202209-026	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.09	<0.04	<0.02	0.28	2.84	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.91	<0.02	<0.02	0.12	2.49	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	5.35	0.07	0.01	0.46	14.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.34	<0.02	<0.02	<0.02	0.96	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	8.67	0.02	0.02	0.08	16.1	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<0.1	<0.1	<0.1	0.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.49	<0.02	<0.02	<0.02	1.42	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.31	<0.02	<0.02	0.07	5.82	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.34	<0.02	<0.02	<0.02	0.53	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.69	<0.01	<0.01	<0.01	1.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW119_220411	0874_SW021_220411	0874_QC100_220411	0874_MW265_220412	0874_MW243_220412
Sampling date / time					11-Apr-2022 15:20	11-Apr-2022 12:45	11-Apr-2022 14:10	12-Apr-2022 12:17	12-Apr-2022 12:17
Compound	CAS Number	LOR	Unit	ET2202209-011	ET2202209-012	ET2202209-013	ET2202209-025	ET2202209-026	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	20.2	0.09	0.03	1.01	46.2	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	14.0	0.09	0.03	0.54	30.4	
Sum of PFAS (WA DER List)	----	0.01	µg/L	18.9	0.09	0.03	0.89	42.8	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	108	115	111	107	
13C8-PFOA	----	0.02	%	104	103	104	102	110	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC111_220412	0874_MW224_220412	0874_MW223_220412	0874_MW229_220412	0874_MW226_220412
Sampling date / time				12-Apr-2022 12:00	12-Apr-2022 13:04	12-Apr-2022 13:21	12-Apr-2022 14:22	12-Apr-2022 14:47	
Compound	CAS Number	LOR	Unit	ET2202209-027	ET2202209-028	ET2202209-029	ET2202209-030	ET2202209-031	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.27	0.06	0.22	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.10	0.05	0.21	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.40	0.28	1.61	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.06	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.19	3.18	<0.01	0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.18	0.28	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.14	1.30	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.07	0.17	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	0.04	0.12	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.09	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.06	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.06	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.06	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC111_220412	0874_MW224_220412	0874_MW223_220412	0874_MW229_220412	0874_MW226_220412
Sampling date / time				12-Apr-2022 12:00	12-Apr-2022 13:04	12-Apr-2022 13:21	12-Apr-2022 14:22	12-Apr-2022 14:47	
Compound	CAS Number	LOR	Unit	ET2202209-027	ET2202209-028	ET2202209-029	ET2202209-030	ET2202209-031	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.06	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.06	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.14	0.09	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.88	1.24	7.34	<0.01	0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.46	0.47	4.79	<0.01	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.78	1.10	7.07	<0.01	0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	87.4	112	106	118	
13C8-PFOA	----	0.02	%	101	95.6	105	99.8	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW228_220412	0874_QC112_220412	0874_MW227_220412	0874_MW114_220412	0874_MW112_220412
Sampling date / time				12-Apr-2022 15:05	12-Apr-2022 15:05	12-Apr-2022 15:22	12-Apr-2022 15:39	12-Apr-2022 15:50	
Compound	CAS Number	LOR	Unit	ET2202209-032	ET2202209-033	ET2202209-034	ET2202209-035	ET2202209-036	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	<0.02	0.88	1.68	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.91	1.72	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.04	<0.01	10.7	24.8	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.70	1.22	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	20.7	31.8	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.5	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.53	0.92	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	1.99	6.85	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.27	0.42	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.64	0.92	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.62	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.62	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.62	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW228_220412	0874_QC112_220412	0874_MW227_220412	0874_MW114_220412	0874_MW112_220412
Sampling date / time				12-Apr-2022 15:05	12-Apr-2022 15:05	12-Apr-2022 15:22	12-Apr-2022 15:39	12-Apr-2022 15:50	
Compound	CAS Number	LOR	Unit	ET2202209-032	ET2202209-033	ET2202209-034	ET2202209-035	ET2202209-036	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.62	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<0.62	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.25	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.25	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.25	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.25	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.25	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.06	0.07	<0.01	37.3	70.3	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.04	<0.01	31.4	56.6	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.06	0.07	<0.01	35.7	67.4	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	109	114	103	100	107	
13C8-PFOA	----	0.02	%	99.4	104	99.5	107	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW246_220412	0874_MW245_220412	0874_SW108_220412	0874_SW113_220412	0874_SW115_220412
Sampling date / time				12-Apr-2022 15:59	12-Apr-2022 16:15	12-Apr-2022 14:35	12-Apr-2022 16:15	12-Apr-2022 15:45	
Compound	CAS Number	LOR	Unit	ET2202209-037	ET2202209-038	ET2202209-052	ET2202209-053	ET2202209-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	16.4	<0.02	0.26	0.21	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	21.3	<0.02	0.24	0.21	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.09	138	0.09	1.55	1.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	8.10	<0.02	0.06	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.12	66.8	<0.01	1.35	1.20	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	4.8	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	8.90	<0.02	0.07	0.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	50.8	0.02	0.40	0.44	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	7.62	<0.02	0.04	0.07	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	13.2	<0.01	0.07	0.12	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<1.19	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<1.19	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<1.19	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW246_220412	0874_MW245_220412	0874_SW108_220412	0874_SW113_220412	0874_SW115_220412
Sampling date / time					12-Apr-2022 15:59	12-Apr-2022 16:15	12-Apr-2022 14:35	12-Apr-2022 16:15	12-Apr-2022 15:45
Compound	CAS Number	LOR	Unit	ET2202209-037	ET2202209-038	ET2202209-052	ET2202209-053	ET2202209-055	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<1.19	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<1.19	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.48	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.48	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.48	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.48	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.48	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.25	336	0.11	4.04	3.50	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.21	205	0.09	2.90	2.30	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.25	306	0.11	3.74	3.24	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	104	102	94.3	94.3	
13C8-PFOA	----	0.02	%	99.6	106	101	105	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW208_220412	0874_QC104_220412	0874_QC301_220412	0874_SW107_220412	0874_SW110_220412
Sampling date / time				12-Apr-2022 15:10	12-Apr-2022 15:30	12-Apr-2022 16:30	12-Apr-2022 14:15	12-Apr-2022 13:10	
Compound	CAS Number	LOR	Unit	ET2202209-056	ET2202209-057	ET2202209-058	ET2202209-059	ET2202209-060	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.04	<0.02	0.15	0.26	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.03	<0.02	0.16	0.24	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.14	0.21	<0.01	1.33	1.91	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.12	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.25	<0.01	0.40	2.55	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	0.14	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	0.08	<0.02	0.19	0.74	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.06	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	<0.01	0.04	0.13	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW208_220412	0874_QC104_220412	0874_QC301_220412	0874_SW107_220412	0874_SW110_220412
Sampling date / time					12-Apr-2022 15:10	12-Apr-2022 15:30	12-Apr-2022 16:30	12-Apr-2022 14:15	12-Apr-2022 13:10
Compound	CAS Number	LOR	Unit	ET2202209-056	ET2202209-057	ET2202209-058	ET2202209-059	ET2202209-060	ET2202209-060
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.51	0.63	<0.01	2.30	6.25	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.42	0.46	<0.01	1.73	4.46	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.51	0.60	<0.01	2.11	5.89	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	85.5	104	85.0	89.7	102	
13C8-PFOA	----	0.02	%	115	106	110	108	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_220412	0874_SW210_220412	0874_SW116_220412	0874_SW112_220412	0874_SW109_220412
Sampling date / time				12-Apr-2022 13:10	12-Apr-2022 14:45	12-Apr-2022 15:30	12-Apr-2022 10:00	12-Apr-2022 14:45	
Compound	CAS Number	LOR	Unit	ET2202209-061	ET2202209-062	ET2202209-063	ET2202209-064	ET2202209-065	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.27	<0.02	0.04	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.30	<0.02	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.36	0.05	0.18	0.05	0.12	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.11	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.33	0.04	0.25	0.04	0.20	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.72	0.02	0.08	0.02	0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	<0.01	0.02	<0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_220412	0874_SW210_220412	0874_SW116_220412	0874_SW112_220412	0874_SW109_220412
Sampling date / time				12-Apr-2022 13:10	12-Apr-2022 14:45	12-Apr-2022 15:30	12-Apr-2022 10:00	12-Apr-2022 14:45	
Compound	CAS Number	LOR	Unit	ET2202209-061	ET2202209-062	ET2202209-063	ET2202209-064	ET2202209-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.52	0.11	0.60	0.11	0.38	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.69	0.09	0.43	0.09	0.32	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.11	0.11	0.57	0.11	0.38	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.4	92.3	95.6	105	97.3	
13C8-PFOA	----	0.02	%	107	105	101	99.8	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW111_220412	0874_MW136_220413	0874_SW131_220413	0874_SW126_220413	0874_MW244_220413
Sampling date / time					12-Apr-2022 13:45	13-Apr-2022 08:39	13-Apr-2022 09:09	13-Apr-2022 09:10	13-Apr-2022 09:23
Compound	CAS Number	LOR	Unit	ET2202209-066	ET2202209-067	ET2202209-068	ET2202209-070	ET2202209-072	ET2202209-072
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.21	<0.08	0.11	0.25	0.38	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.17	0.02	0.10	0.18	0.19	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.56	0.24	0.90	1.38	0.89	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	<0.02	0.06	0.10	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.18	0.58	1.53	3.82	2.00	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.04	0.06	0.14	0.17	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.51	0.04	0.28	0.52	0.64	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	<0.02	0.03	0.04	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.09	<0.01	0.06	0.12	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW111_220412	0874_MW136_220413	0874_SW131_220413	0874_SW126_220413	0874_MW244_220413
Sampling date / time					12-Apr-2022 13:45	13-Apr-2022 08:39	13-Apr-2022 09:09	13-Apr-2022 09:10	13-Apr-2022 09:23
Compound	CAS Number	LOR	Unit	ET2202209-066	ET2202209-067	ET2202209-068	ET2202209-070	ET2202209-072	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.27	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.92	0.92	3.40	6.55	4.38	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.74	0.82	2.43	5.20	2.89	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.67	0.90	3.24	6.27	4.14	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.6	106	105	94.9	80.6	
13C8-PFOA	----	0.02	%	99.7	106	104	103	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW242_220413	0874_QC113_220413	0874_MW241_220413	0874_MW004_220413	0874_MW122_220413
Sampling date / time				13-Apr-2022 09:54	13-Apr-2022 09:55	13-Apr-2022 10:03	13-Apr-2022 10:13	13-Apr-2022 10:20	
Compound	CAS Number	LOR	Unit	ET2202209-073	ET2202209-074	ET2202209-075	ET2202209-076	ET2202209-077	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.34	<0.08	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.32	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.40	0.38	2.34	0.02	0.09	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.07	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.16	0.15	0.44	0.03	0.02	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.05	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.08	0.24	<0.02	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.04	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW242_220413	0874_QC113_220413	0874_MW241_220413	0874_MW004_220413	0874_MW122_220413
Sampling date / time				13-Apr-2022 09:54	13-Apr-2022 09:55	13-Apr-2022 10:03	13-Apr-2022 10:13	13-Apr-2022 10:20	
Compound	CAS Number	LOR	Unit	ET2202209-073	ET2202209-074	ET2202209-075	ET2202209-076	ET2202209-077	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.79	0.76	3.84	0.05	0.18	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.56	0.53	2.78	0.05	0.11	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.73	0.70	3.45	0.05	0.18	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.3	94.7	113	106	90.5	
13C8-PFOA	----	0.02	%	106	94.8	96.6	100	95.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW002_220413	0874_MW135_220413	0874_MW056_220413	0874_MW057_220413	0874_MW043_220413
Sampling date / time				13-Apr-2022 10:28	13-Apr-2022 10:36	13-Apr-2022 11:39	13-Apr-2022 11:50	13-Apr-2022 12:06	
Compound	CAS Number	LOR	Unit	ET2202209-078	ET2202209-079	ET2202209-080	ET2202209-081	ET2202209-082	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.23	0.42	0.68	2.84	2.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	0.34	0.46	2.52	2.62	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.37	1.61	1.89	12.8	55.4	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.16	<0.02	0.03	0.61	1.82	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.26	0.06	0.28	6.29	61.3	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	0.1	0.6	<1.3	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.15	0.04	0.08	1.31	1.79	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.82	0.26	0.38	6.64	13.8	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.08	<0.02	0.03	0.30	1.41	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.17	<0.01	0.03	0.40	4.49	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.64	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.64	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.64	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW002_220413	0874_MW135_220413	0874_MW056_220413	0874_MW057_220413	0874_MW043_220413
Sampling date / time				13-Apr-2022 10:28	13-Apr-2022 10:36	13-Apr-2022 11:39	13-Apr-2022 11:50	13-Apr-2022 12:06	
Compound	CAS Number	LOR	Unit	ET2202209-078	ET2202209-079	ET2202209-080	ET2202209-081	ET2202209-082	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.64	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.64	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.26	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.26	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.17	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.26	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.26	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	8.57	2.73	3.96	34.3	145	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.63	1.67	2.17	19.1	117	
Sum of PFAS (WA DER List)	----	0.01	µg/L	8.18	2.39	3.47	31.2	140	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.5	103	104	97.7	107	
13C8-PFOA	----	0.02	%	104	103	104	106	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC114_220413	0874_MW009_220413	0874_SW014_220413	----	----
Sampling date / time				13-Apr-2022 12:06	13-Apr-2022 12:18	13-Apr-2022 12:30	----	----	
Compound	CAS Number	LOR	Unit	ET2202209-083	ET2202209-084	ET2202209-108	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.05	1.42	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.97	1.34	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	63.2	11.3	0.02	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.11	0.89	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	65.9	17.6	0.02	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.4	<0.2	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	2.05	0.63	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	15.8	3.58	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.54	0.43	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	4.51	1.36	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.68	<0.13	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.27	0.23	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.68	<0.13	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.68	<0.13	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC114_220413	0874_MW009_220413	0874_SW014_220413	----	----
Sampling date / time				13-Apr-2022 12:06	13-Apr-2022 12:18	13-Apr-2022 12:30	----	----	
Compound	CAS Number	LOR	Unit	ET2202209-083	ET2202209-084	ET2202209-108	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.68	<0.13	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.68	<0.13	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.27	<0.05	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.27	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.19	<0.08	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.27	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.27	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	160	38.8	0.04	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	129	28.9	0.04	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	155	36.3	0.04	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	106	111	101	----	----	
13C8-PFOA	----	0.02	%	102	104	109	----	----	



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: SURFACE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4310791)									
ET2202209-014	0874_SD021_220411	EA055: Moisture Content	----	0.1	%	52.7	52.8	0.0	0% - 20%
ET2202209-024	0874_SD114_220411	EA055: Moisture Content	----	0.1	%	54.8	60.6	10.0	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4310802)									
ET2202209-049	0874_SD112_220412	EA055: Moisture Content	----	0.1	%	40.8	48.1	16.5	0% - 20%
ET2202209-090	0874_SD125_220413	EA055: Moisture Content	----	0.1	%	44.1	53.4	19.2	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4310786)									
ET2202209-014	0874_SD021_220411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0006	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2202209-024	0874_SD114_220411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0089	0.0100	11.0	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4310801)									
ET2202209-049	0874_SD112_220412	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4310801) - continued									
ET2202209-049	0874_SD112_220412	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0026	0.0032	21.4	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2202209-090	0874_SD125_220413	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0009	0.0006	35.2	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0015	0.0010	42.7	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0380	# 0.0236	46.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0031	0.0020	41.2	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.327	0.280	15.5	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0069	0.0061	13.4	0% - 50%
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4310786)									
ET2202209-014	0874_SD021_220411	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		ET2202209-024	0874_SD114_220411	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4310801)									
ET2202209-049	0874_SD112_220412	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4310801) - continued									
ET2202209-049	0874_SD112_220412	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ET2202209-090	0874_SD125_220413	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0034	0.0024	36.2	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0013	0.0007	60.7	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.002	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4310786)									
ET2202209-014	0874_SD021_220411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202209-024	0874_SD114_220411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4310801)									
ET2202209-049	0874_SD112_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202209-090	0874_SD125_220413	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4310786)									
ET2202209-014	0874_SD021_220411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202209-024	0874_SD114_220411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4310786) - continued									
ET2202209-024	0874_SD114_220411	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4310801)									
ET2202209-049	0874_SD112_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202209-090	0874_SD125_220413	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4317140)									
ET2202209-006	0874_SW201_220411	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202209-026	0874_MW243_220412	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	14.3	12.3	14.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.1	13.5	17.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.84	2.62	8.1	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.49	2.41	3.3	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.96	0.76	23.9	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4317141)									
ET2202209-036	0874_MW112_220412	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	24.8	24.1	3.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	31.8	32.8	2.8	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.68	1.55	7.8	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.72	1.70	1.5	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.22	1.25	2.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4317141) - continued									
ET2202209-036	0874_MW112_220412	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.25	<0.25	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4317142)									
ET2202209-066	0874_SW111_220412	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.56	1.60	2.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.18	2.25	3.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.21	0.20	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.17	0.18	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.08	0.09	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202209-075	0874_MW241_220413	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.34	2.35	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.44	0.42	4.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.34	0.34	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.32	0.31	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	0.06	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4317143)									
ET2202209-108	0874_SW014_220413	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317140)									
ET2202209-006	0874_SW201_220411	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2202209-026	0874_MW243_220412	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.04	0.94	10.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.42	1.40	1.1	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	5.82	5.72	1.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.53	0.54	1.9	0% - 50%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317140) - continued									
ET2202209-026	0874_MW243_220412	EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	0.6	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317141)									
ET2202209-036	0874_MW112_220412	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.92	0.92	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.92	0.82	11.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	6.85	6.35	7.6	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.42	0.38	12.5	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.62	<0.62	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.2	<1.2	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317142)									
ET2202209-066	0874_SW111_220412	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.09	0.09	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.51	0.49	3.5	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		ET2202209-075	0874_MW241_220413	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.24	0.24	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317143)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4317143) - continued									
ET2202209-108	0874_SW014_220413	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317140)									
ET2202209-006	0874_SW201_220411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202209-026	0874_MW243_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317141)									
ET2202209-036	0874_MW112_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317141) - continued									
ET2202209-036	0874_MW112_220412	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317142)									
ET2202209-066	0874_SW111_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202209-075	0874_MW241_220413	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317143)									
ET2202209-108	0874_SW014_220413	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4317143) - continued									
ET2202209-108	0874_SW014_220413	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4317140)									
ET2202209-006	0874_SW201_220411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202209-026	0874_MW243_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4317141)									
ET2202209-036	0874_MW112_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4317142)									
ET2202209-066	0874_SW111_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4317142) - continued									
ET2202209-066	0874_SW111_220412	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202209-075	0874_MW241_220413	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4317143)									
ET2202209-108	0874_SW014_220413	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4317140)									
ET2202209-006	0874_SW201_220411	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
ET2202209-026	0874_MW243_220412	EP231X: Sum of PFAS	----	0.01	µg/L	46.2	40.8	12.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	30.4	25.8	16.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	42.8	37.6	12.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 4317141)									
ET2202209-036	0874_MW112_220412	EP231X: Sum of PFAS	----	0.01	µg/L	70.3	69.9	0.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	56.6	56.9	0.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	67.4	66.9	0.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 4317142)									
ET2202209-066	0874_SW111_220412	EP231X: Sum of PFAS	----	0.01	µg/L	4.92	5.02	2.0	0% - 20%

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 Work Order : ET2202209
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 4317142) - continued									
ET2202209-066	0874_SW111_220412	EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.74	3.85	2.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.67	4.75	1.7	0% - 20%
ET2202209-075	0874_MW241_220413	EP231X: Sum of PFAS	----	0.01	µg/L	3.84	3.81	0.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.78	2.77	0.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.45	3.44	0.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 4317143)									
ET2202209-108	0874_SW014_220413	EP231X: Sum of PFAS	----	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.04	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4310786)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	99.1	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	89.7	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	81.8	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	87.4	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	88.8	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	86.7	59.0	134	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4310801)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	85.4	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	73.1	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	84.3	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	80.2	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	96.6	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	79.2	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310786)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	74.7	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	73.2	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.0	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.4	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.0	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.8	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.2	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	81.2	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	90.5	69.0	133	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310801)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	87.1	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.8	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.6	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.2	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.4	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.6	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	79.2	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	69.2	64.0	136	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310801) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	73.2	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	72.4	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.7	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4310786)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	78.0	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	100	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	70.8	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	79.3	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.6	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.2	61.0	139	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4310801)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	88.0	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.2	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	90.4	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.8	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	73.2	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4310786)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	77.4	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	90.2	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	80.0	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	85.8	54.8	124	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4310801)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	78.2	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	88.6	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	80.4	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	75.0	54.8	124	

Sub-Matrix: **WATER**

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
	Spike	Spike Recovery (%)	Acceptable Limits (%)



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317140)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	104	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	95.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	105	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317141)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.5	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	98.6	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	98.8	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	92.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	78.7	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	86.1	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317142)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	95.6	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	91.0	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	91.2	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	88.4	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	90.7	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.2	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317143)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	94.4	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	101	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	89.5	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	82.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	82.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317140)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.2	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	100	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	98.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.8	65.0	144	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317140) - continued									
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	97.4	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317141)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	90.1	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	87.6	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	85.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	75.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	81.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	74.2	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	65.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	86.8	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317142)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.9	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	93.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	90.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	88.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	87.8	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.2	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317143)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.0	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	91.6	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	86.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.6	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	95.6	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	85.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	85.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.8	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317140)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317140) - continued									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	112	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	113	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.5	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317141)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.2	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	91.8	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.4	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	80.7	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	83.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	83.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317142)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	93.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.1	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	93.8	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.8	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	91.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	92.4	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317143)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	83.8	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	90.3	60.5	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
				Result		LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317143) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	108	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	86.6	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	89.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.6	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317140)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.7	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	95.9	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	97.5	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	96.5	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317141)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	92.2	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	90.4	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	85.4	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	114	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317142)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	105	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	83.7	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	88.0	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317143)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	97.1	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	87.5	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	94.6	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	108	64.2	133	
EP231P: PFAS Sums (QCLot: 4317140)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 4317141)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4317142)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4317143)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4310786)							
ET2202209-015	0874_SD127_220411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	117	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	90.2	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	85.6	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	81.1	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	104	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	94.6	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4310801)							
ET2202209-050	0874_QC103_220412	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	88.6	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	78.2	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	77.3	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	72.5	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310786)							
ET2202209-015	0874_SD127_220411	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	88.5	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	74.8	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	82.0	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	83.6	71.0	131



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310786) - continued							
ET2202209-015	0874_SD127_220411	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	92.0	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	92.4	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	83.2	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	91.6	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	87.6	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	88.0	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	104	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4310801)							
ET2202209-050	0874_QC103_220412	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	97.3	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	79.2	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	82.8	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	83.2	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	86.0	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	85.2	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	80.4	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	67.6	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	72.0	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	68.0	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	84.3	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4310786)							
ET2202209-015	0874_SD127_220411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	80.0	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	83.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	81.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	97.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	82.4	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	82.8	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4310801)							
ET2202209-050	0874_QC103_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	84.4	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	97.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	82.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	76.4	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4310801) - continued							
ET2202209-050	0874_QC103_220412	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	83.6	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	87.2	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4310786)							
ET2202209-015	0874_SD127_220411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	86.3	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	98.7	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	73.7	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	73.3	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4310801)							
ET2202209-050	0874_QC103_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	76.9	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	86.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	73.3	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	70.4	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317140)							
ET2202209-012	0874_SW021_220411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	102	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	93.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.6	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	89.6	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	78.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	91.6	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317141)							
ET2202209-065	0874_SW109_220412	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	93.1	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	87.2	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	96.3	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	77.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	75.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	76.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317142)							
ET2202209-072	0874_MW244_220413	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	91.4	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	96.4	71.0	127



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317142) - continued							
ET2202209-072	0874_MW244_220413	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	103	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	102	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4317143)							
ET2202209-109	0874_SW016_220413	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	86.9	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	108	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	127	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	90.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	88.2	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317140)							
ET2202209-012	0874_SW021_220411	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	101	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	97.2	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	102	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.5	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	89.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	93.7	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	100	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	90.5	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	101	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	84.3	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	96.1	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317141)					
ET2202209-065	0874_SW109_220412	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	96.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	96.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	89.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	87.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	107	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	81.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	83.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	80.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	74.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.5	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317142)					



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317142) - continued							
ET2202209-072	0874_MW244_220413	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	114	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	105	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	93.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.9	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.6	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	95.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	92.7	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	96.3	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4317143)							
ET2202209-109	0874_SW016_220413	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	98.3	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	84.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	89.6	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.7	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	90.2	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	92.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	88.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	85.6	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	86.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	84.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	89.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317140)							
ET2202209-012	0874_SW021_220411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	96.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	99.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	96.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	94.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	103	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	98.5	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317141)							
ET2202209-065	0874_SW109_220412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	93.8	59.0	135



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317141) - continued							
ET2202209-065	0874_SW109_220412	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	87.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	83.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	92.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	81.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	89.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317142)							
ET2202209-072	0874_MW244_220413	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	93.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	90.9	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	98.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	98.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	101	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	85.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.3	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4317143)							
ET2202209-109	0874_SW016_220413	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	88.6	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	84.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	93.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	91.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	88.2	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	83.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	87.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317140)							
ET2202209-012	0874_SW021_220411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	88.8	63.0	143



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317140) - continued							
ET2202209-012	0874_SW021_220411	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	74.8	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	111	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	102	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317141)							
ET2202209-065	0874_SW109_220412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	96.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	82.4	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	93.3	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	72.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317142)							
ET2202209-072	0874_MW244_220413	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	71.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	99.9	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	92.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4317143)							
ET2202209-109	0874_SW016_220413	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	93.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	80.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	99.8	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	104	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2202209	Page	: 1 of 16
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 21-Apr-2022
Site	: QLD_0874	Issue Date	: 11-May-2022
Sampler	: [REDACTED]	No. of samples received	: 109
Order number	: 60612487_2.1	No. of samples analysed	: 107

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202209--090	0874_SD125_220413	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	46.9 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202209--050	0874_QC103_220412	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202209--050	0874_QC103_220412	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202209--072	0874_MW244_220413	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202209--072	0874_MW244_220413	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Analysis Holding Time Compliance

Matrix: **SOIL**

Method	Container / Client Sample ID(s)	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar	0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	----	----	----	29-Apr-2022	25-Apr-2022	4



Matrix: **SOIL**

Method Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C) - Analysis Holding Time Compliance						
HDPE Soil Jar						
0874_QC105_220412, 0874_SD115_220412, 0874_SD113_220412, 0874_SD108_220412, 0874_SD109_220412, 0874_SD110_220412, 0874_SD208_220412, 0874_SD116_220412, 0874_SD107_220412, 0874_SD112_220412, 0874_QC103_220412, 0874_SD111_220412, 0874_SD210_220412	----	----	----	29-Apr-2022	26-Apr-2022	3
HDPE Soil Jar						
0874_SD131_220413, 0874_SD126_220413, 0874_SD102_220413, 0874_SD016_220413, 0874_SD132_220413, 0874_QC109_220413, 0874_SD125_220413, 0874_SD001_220413, 0874_QC107_220413, 0874_SD010_220413, 0874_SD013_220413, 0874_SD106_220413, 0874_SD014_220413, 0874_SD209_220413	----	----	----	29-Apr-2022	27-Apr-2022	2

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	6	75	8.00	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	----	----	----	29-Apr-2022	25-Apr-2022	✖
HDPE Soil Jar (EA055) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	----	----	----	29-Apr-2022	26-Apr-2022	✖
HDPE Soil Jar (EA055) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	----	----	----	29-Apr-2022	27-Apr-2022	✖



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	29-Apr-2022	08-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	29-Apr-2022	09-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	29-Apr-2022	10-Oct-2022	✓	04-May-2022	08-Jun-2022	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	29-Apr-2022	08-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	29-Apr-2022	09-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	29-Apr-2022	10-Oct-2022	✓	04-May-2022	08-Jun-2022	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	29-Apr-2022	08-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	29-Apr-2022	09-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	29-Apr-2022	10-Oct-2022	✓	04-May-2022	08-Jun-2022	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	29-Apr-2022	08-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	29-Apr-2022	09-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	29-Apr-2022	10-Oct-2022	✓	04-May-2022	08-Jun-2022	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD021_220411, 0874_SD129_220411, 0874_SD120_220411, 0874_SD118_220411, 0874_QC101_220411, 0874_SD114_220411	0874_SD127_220411, 0874_SD017_220411, 0874_SD201_220411, 0874_SD119_220411, 0874_SD117_220411,	11-Apr-2022	29-Apr-2022	08-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_QC105_220412, 0874_SD113_220412, 0874_SD109_220412, 0874_SD208_220412, 0874_SD107_220412, 0874_QC103_220412, 0874_SD210_220412	0874_SD115_220412, 0874_SD108_220412, 0874_SD110_220412, 0874_SD116_220412, 0874_SD112_220412, 0874_SD111_220412,	12-Apr-2022	29-Apr-2022	09-Oct-2022	✓	04-May-2022	08-Jun-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_220413, 0874_SD102_220413, 0874_SD132_220413, 0874_SD125_220413, 0874_QC107_220413, 0874_SD013_220413, 0874_SD014_220413,	0874_SD126_220413, 0874_SD016_220413, 0874_QC109_220413, 0874_SD001_220413, 0874_SD010_220413, 0874_SD106_220413, 0874_SD209_220413	13-Apr-2022	29-Apr-2022	10-Oct-2022	✓	04-May-2022	08-Jun-2022	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW017_220411, 0874_SW120_220411, 0874_SW127_220411, 0874_SW114_220411, 0874_SW117_220411, 0874_SW119_220411, 0874_QC100_220411	0874_QC300_220411, 0874_SW118_220411, 0874_SW201_220411, 0874_SW129_220411, 0874_QC500_220411, 0874_SW021_220411,	11-Apr-2022	04-May-2022	08-Oct-2022	✓	04-May-2022	08-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW265_220412, 0874_QC111_220412, 0874_MW223_220412, 0874_MW226_220412, 0874_QC112_220412, 0874_MW114_220412, 0874_MW246_220412, 0874_SW108_220412, 0874_SW115_220412, 0874_QC104_220412, 0874_SW107_220412, 0874_QC102_220412, 0874_SW116_220412, 0874_SW109_220412,	0874_MW243_220412, 0874_MW224_220412, 0874_MW229_220412, 0874_MW228_220412, 0874_MW227_220412, 0874_MW112_220412, 0874_MW245_220412, 0874_SW113_220412, 0874_SW208_220412, 0874_QC301_220412, 0874_SW110_220412, 0874_SW210_220412, 0874_SW112_220412, 0874_SW111_220412	12-Apr-2022	04-May-2022	09-Oct-2022	✓	04-May-2022	09-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW136_220413, 0874_SW126_220413, 0874_MW242_220413, 0874_MW241_220413, 0874_MW122_220413, 0874_MW135_220413, 0874_MW057_220413, 0874_QC114_220413, 0874_SW209_220413, 0874_QC303_220413, 0874_SW106_220413, 0874_SW125_220413, 0874_QC106_220413, 0874_SW014_220413,	0874_SW131_220413, 0874_MW244_220413, 0874_QC113_220413, 0874_MW004_220413, 0874_MW002_220413, 0874_MW056_220413, 0874_MW043_220413, 0874_MW009_220413, 0874_QC108_220413, 0874_SW102_220413, 0874_SW001_220413, 0874_SW010_220413, 0874_SW132_220413, 0874_SW016_220413	13-Apr-2022	04-May-2022	10-Oct-2022	✓	04-May-2022	10-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW017_220411, 0874_SW120_220411, 0874_SW127_220411, 0874_SW114_220411, 0874_SW117_220411, 0874_SW119_220411, 0874_QC100_220411	0874_QC300_220411, 0874_SW118_220411, 0874_SW201_220411, 0874_SW129_220411, 0874_QC500_220411, 0874_SW021_220411,	11-Apr-2022	04-May-2022	08-Oct-2022	✓	04-May-2022	08-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW265_220412, 0874_QC111_220412, 0874_MW223_220412, 0874_MW226_220412, 0874_QC112_220412, 0874_MW114_220412, 0874_MW246_220412, 0874_SW108_220412, 0874_SW115_220412, 0874_QC104_220412, 0874_SW107_220412, 0874_QC102_220412, 0874_SW116_220412, 0874_SW109_220412,	0874_MW243_220412, 0874_MW224_220412, 0874_MW229_220412, 0874_MW228_220412, 0874_MW227_220412, 0874_MW112_220412, 0874_MW245_220412, 0874_SW113_220412, 0874_SW208_220412, 0874_QC301_220412, 0874_SW110_220412, 0874_SW210_220412, 0874_SW112_220412, 0874_SW111_220412	12-Apr-2022	04-May-2022	09-Oct-2022	✓	04-May-2022	09-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW136_220413, 0874_SW126_220413, 0874_MW242_220413, 0874_MW241_220413, 0874_MW122_220413, 0874_MW135_220413, 0874_MW057_220413, 0874_QC114_220413, 0874_SW209_220413, 0874_QC303_220413, 0874_SW106_220413, 0874_SW125_220413, 0874_QC106_220413, 0874_SW014_220413,	0874_SW131_220413, 0874_MW244_220413, 0874_QC113_220413, 0874_MW004_220413, 0874_MW002_220413, 0874_MW056_220413, 0874_MW043_220413, 0874_MW009_220413, 0874_QC108_220413, 0874_SW102_220413, 0874_SW001_220413, 0874_SW010_220413, 0874_SW132_220413, 0874_SW016_220413	13-Apr-2022	04-May-2022	10-Oct-2022	✓	04-May-2022	10-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW017_220411, 0874_SW120_220411, 0874_SW127_220411, 0874_SW114_220411, 0874_SW117_220411, 0874_SW119_220411, 0874_QC100_220411	0874_QC300_220411, 0874_SW118_220411, 0874_SW201_220411, 0874_SW129_220411, 0874_QC500_220411, 0874_SW021_220411,	11-Apr-2022	04-May-2022	08-Oct-2022	✓	04-May-2022	08-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW265_220412, 0874_QC111_220412, 0874_MW223_220412, 0874_MW226_220412, 0874_QC112_220412, 0874_MW114_220412, 0874_MW246_220412, 0874_SW108_220412, 0874_SW115_220412, 0874_QC104_220412, 0874_SW107_220412, 0874_QC102_220412, 0874_SW116_220412, 0874_SW109_220412,	0874_MW243_220412, 0874_MW224_220412, 0874_MW229_220412, 0874_MW228_220412, 0874_MW227_220412, 0874_MW112_220412, 0874_MW245_220412, 0874_SW113_220412, 0874_SW208_220412, 0874_QC301_220412, 0874_SW110_220412, 0874_SW210_220412, 0874_SW112_220412, 0874_SW111_220412	12-Apr-2022	04-May-2022	09-Oct-2022	✓	04-May-2022	09-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW136_220413, 0874_SW126_220413, 0874_MW242_220413, 0874_MW241_220413, 0874_MW122_220413, 0874_MW135_220413, 0874_MW057_220413, 0874_QC114_220413, 0874_SW209_220413, 0874_QC303_220413, 0874_SW106_220413, 0874_SW125_220413, 0874_QC106_220413, 0874_SW014_220413,	0874_SW131_220413, 0874_MW244_220413, 0874_QC113_220413, 0874_MW004_220413, 0874_MW002_220413, 0874_MW056_220413, 0874_MW043_220413, 0874_MW009_220413, 0874_QC108_220413, 0874_SW102_220413, 0874_SW001_220413, 0874_SW010_220413, 0874_SW132_220413, 0874_SW016_220413	13-Apr-2022	04-May-2022	10-Oct-2022	✓	04-May-2022	10-Oct-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW017_220411, 0874_SW120_220411, 0874_SW127_220411, 0874_SW114_220411, 0874_SW117_220411, 0874_SW119_220411, 0874_QC100_220411	0874_QC300_220411, 0874_SW118_220411, 0874_SW201_220411, 0874_SW129_220411, 0874_QC500_220411, 0874_SW021_220411,	11-Apr-2022	04-May-2022	08-Oct-2022	✓	04-May-2022	08-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW265_220412, 0874_QC111_220412, 0874_MW223_220412, 0874_MW226_220412, 0874_QC112_220412, 0874_MW114_220412, 0874_MW246_220412, 0874_SW108_220412, 0874_SW115_220412, 0874_QC104_220412, 0874_SW107_220412, 0874_QC102_220412, 0874_SW116_220412, 0874_SW109_220412,	0874_MW243_220412, 0874_MW224_220412, 0874_MW229_220412, 0874_MW228_220412, 0874_MW227_220412, 0874_MW112_220412, 0874_MW245_220412, 0874_SW113_220412, 0874_SW208_220412, 0874_QC301_220412, 0874_SW110_220412, 0874_SW210_220412, 0874_SW112_220412, 0874_SW111_220412	12-Apr-2022	04-May-2022	09-Oct-2022	✓	04-May-2022	09-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW136_220413, 0874_SW126_220413, 0874_MW242_220413, 0874_MW241_220413, 0874_MW122_220413, 0874_MW135_220413, 0874_MW057_220413, 0874_QC114_220413, 0874_SW209_220413, 0874_QC303_220413, 0874_SW106_220413, 0874_SW125_220413, 0874_QC106_220413, 0874_SW014_220413,	0874_SW131_220413, 0874_MW244_220413, 0874_QC113_220413, 0874_MW004_220413, 0874_MW002_220413, 0874_MW056_220413, 0874_MW043_220413, 0874_MW009_220413, 0874_QC108_220413, 0874_SW102_220413, 0874_SW001_220413, 0874_SW010_220413, 0874_SW132_220413, 0874_SW016_220413	13-Apr-2022	04-May-2022	10-Oct-2022	✓	04-May-2022	10-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW017_220411, 0874_SW120_220411, 0874_SW127_220411, 0874_SW114_220411, 0874_SW117_220411, 0874_SW119_220411, 0874_QC100_220411	0874_QC300_220411, 0874_SW118_220411, 0874_SW201_220411, 0874_SW129_220411, 0874_QC500_220411, 0874_SW021_220411,	11-Apr-2022	04-May-2022	08-Oct-2022	✓	04-May-2022	08-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW265_220412, 0874_QC111_220412, 0874_MW223_220412, 0874_MW226_220412, 0874_QC112_220412, 0874_MW114_220412, 0874_MW246_220412, 0874_SW108_220412, 0874_SW115_220412, 0874_QC104_220412, 0874_SW107_220412, 0874_QC102_220412, 0874_SW116_220412, 0874_SW109_220412,	0874_MW243_220412, 0874_MW224_220412, 0874_MW229_220412, 0874_MW228_220412, 0874_MW227_220412, 0874_MW112_220412, 0874_MW245_220412, 0874_SW113_220412, 0874_SW208_220412, 0874_QC301_220412, 0874_SW110_220412, 0874_SW210_220412, 0874_SW112_220412, 0874_SW111_220412	12-Apr-2022	04-May-2022	09-Oct-2022	✓	04-May-2022	09-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW136_220413, 0874_SW126_220413, 0874_MW242_220413, 0874_MW241_220413, 0874_MW122_220413, 0874_MW135_220413, 0874_MW057_220413, 0874_QC114_220413, 0874_SW209_220413, 0874_QC303_220413, 0874_SW106_220413, 0874_SW125_220413, 0874_QC106_220413, 0874_SW014_220413,	0874_SW131_220413, 0874_MW244_220413, 0874_QC113_220413, 0874_MW004_220413, 0874_MW002_220413, 0874_MW056_220413, 0874_MW043_220413, 0874_MW009_220413, 0874_QC108_220413, 0874_SW102_220413, 0874_SW001_220413, 0874_SW010_220413, 0874_SW132_220413, 0874_SW016_220413	13-Apr-2022	04-May-2022	10-Oct-2022	✓	04-May-2022	10-Oct-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: SOIL

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: WATER

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	75	8.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	75	5.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	75	5.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	75	5.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2202209

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : BRISBANE
E-mail : [Redacted]
Telephone : ---
Facsimile : ---
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 36219
Site : QLD_0874
Sampler : [Redacted]

Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile :
Page : 1 of 5
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 21-Apr-2022 08:30
Client Requested Due Date : 06-May-2022
Issue Date : 22-Apr-2022
Scheduled Reporting Date : 06-May-2022

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 3
Receipt Detail : MEDIUM HARD ESKY
Security Seal : Intact.
Temperature : 2.2/2.4/3.6°C - Ice present
No. of samples received / analysed : 109 / 107

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
22/4/2022: SRN has been resent to acknowledge a change to estimated due dates for analysis.
For any further information regarding these adjustments please contact client services at [Redacted]
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
\$\$ conducted by ALS Townsville, NATA accreditation no. 825, (Site no. 23472 for Chemical Testing and Site no. 23313 for Biological Testing)
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2202209-014	11-Apr-2022 12:45	0874_SD021_220411	✓	✓
ET2202209-015	11-Apr-2022 13:45	0874_SD127_220411	✓	✓
ET2202209-016	11-Apr-2022 14:10	0874_SD129_220411	✓	✓
ET2202209-017	11-Apr-2022 13:10	0874_SD017_220411	✓	✓
ET2202209-018	11-Apr-2022 13:25	0874_SD120_220411	✓	✓
ET2202209-019	11-Apr-2022 14:45	0874_SD201_220411	✓	✓
ET2202209-020	11-Apr-2022 16:00	0874_SD118_220411	✓	✓
ET2202209-021	11-Apr-2022 15:20	0874_SD119_220411	✓	✓
ET2202209-022	11-Apr-2022 14:10	0874_QC101_220411	✓	✓
ET2202209-023	11-Apr-2022 15:45	0874_SD117_220411	✓	✓
ET2202209-024	11-Apr-2022 16:15	0874_SD114_220411	✓	✓
ET2202209-040	12-Apr-2022 16:51	0874_QC105_220412	✓	✓
ET2202209-041	12-Apr-2022 16:52	0874_SD115_220412	✓	✓
ET2202209-042	12-Apr-2022 16:52	0874_SD113_220412	✓	✓
ET2202209-043	12-Apr-2022 16:53	0874_SD108_220412	✓	✓
ET2202209-044	12-Apr-2022 16:54	0874_SD109_220412	✓	✓
ET2202209-045	12-Apr-2022 16:54	0874_SD110_220412	✓	✓
ET2202209-046	12-Apr-2022 16:55	0874_SD208_220412	✓	✓
ET2202209-047	12-Apr-2022 15:30	0874_SD116_220412	✓	✓
ET2202209-048	12-Apr-2022 14:15	0874_SD107_220412	✓	✓
ET2202209-049	12-Apr-2022 10:00	0874_SD112_220412	✓	✓
ET2202209-050	12-Apr-2022 13:10	0874_QC103_220412	✓	✓
ET2202209-051	12-Apr-2022 13:45	0874_SD111_220412	✓	✓
ET2202209-054	12-Apr-2022 12:45	0874_SD210_220412	✓	✓
ET2202209-069	13-Apr-2022 09:09	0874_SD131_220413	✓	✓
ET2202209-071	13-Apr-2022 09:11	0874_SD126_220413	✓	✓
ET2202209-086	13-Apr-2022 14:30	0874_SD102_220413	✓	✓
ET2202209-087	13-Apr-2022 15:10	0874_SD016_220413	✓	✓
ET2202209-088	13-Apr-2022 16:11	0874_SD132_220413	✓	✓
ET2202209-089	13-Apr-2022 14:30	0874_QC109_220413	✓	✓
ET2202209-090	13-Apr-2022 14:00	0874_SD125_220413	✓	✓
ET2202209-091	13-Apr-2022 15:30	0874_SD001_220413	✓	✓
ET2202209-092	13-Apr-2022 13:10	0874_QC107_220413	✓	✓
ET2202209-093	13-Apr-2022 13:10	0874_SD010_220413	✓	✓
ET2202209-094	13-Apr-2022 15:00	0874_SD013_220413	✓	✓



			SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2202209-095	13-Apr-2022 11:45	0874_SD106_220413	✓	✓
ET2202209-096	13-Apr-2022 12:30	0874_SD014_220413	✓	✓
ET2202209-097	13-Apr-2022 12:00	0874_SD209_220413	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2202209-001	11-Apr-2022 13:10	0874_SW017_220411		✓
ET2202209-002	11-Apr-2022 17:02	0874_QC300_220411		✓
ET2202209-003	11-Apr-2022 13:25	0874_SW120_220411		✓
ET2202209-004	11-Apr-2022 16:00	0874_SW118_220411		✓
ET2202209-005	11-Apr-2022 13:45	0874_SW127_220411		✓
ET2202209-006	11-Apr-2022 14:45	0874_SW201_220411		✓
ET2202209-007	11-Apr-2022 16:15	0874_SW114_220411		✓
ET2202209-008	11-Apr-2022 14:10	0874_SW129_220411		✓
ET2202209-009	11-Apr-2022 15:45	0874_SW117_220411		✓
ET2202209-010	11-Apr-2022 12:00	0874_QC500_220411		✓
ET2202209-011	11-Apr-2022 15:20	0874_SW119_220411		✓
ET2202209-012	11-Apr-2022 12:45	0874_SW021_220411		✓
ET2202209-013	11-Apr-2022 14:10	0874_QC100_220411		✓
ET2202209-025	12-Apr-2022 12:17	0874_MW265_220412		✓
ET2202209-026	12-Apr-2022 12:17	0874_MW243_220412		✓
ET2202209-027	12-Apr-2022 12:00	0874_QC111_220412		✓
ET2202209-028	12-Apr-2022 13:04	0874_MW224_220412		✓
ET2202209-029	12-Apr-2022 13:21	0874_MW223_220412		✓
ET2202209-030	12-Apr-2022 14:22	0874_MW229_220412		✓
ET2202209-031	12-Apr-2022 14:47	0874_MW226_220412		✓
ET2202209-032	12-Apr-2022 15:05	0874_MW228_220412		✓
ET2202209-033	12-Apr-2022 15:05	0874_QC112_220412		✓
ET2202209-034	12-Apr-2022 15:22	0874_MW227_220412		✓
ET2202209-035	12-Apr-2022 15:39	0874_MW114_220412		✓
ET2202209-036	12-Apr-2022 15:50	0874_MW112_220412		✓
ET2202209-037	12-Apr-2022 15:59	0874_MW246_220412		✓



			(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2202209-038	12-Apr-2022 16:15	0874_MW245_220412		✓
ET2202209-039	12-Apr-2022 16:45	0874_QC302_220412	✓	
ET2202209-052	12-Apr-2022 14:35	0874_SW108_220412		✓
ET2202209-053	12-Apr-2022 16:15	0874_SW113_220412		✓
ET2202209-055	12-Apr-2022 15:45	0874_SW115_220412		✓
ET2202209-056	12-Apr-2022 15:10	0874_SW208_220412		✓
ET2202209-057	12-Apr-2022 15:30	0874_QC104_220412		✓
ET2202209-058	12-Apr-2022 16:30	0874_QC301_220412		✓
ET2202209-059	12-Apr-2022 14:15	0874_SW107_220412		✓
ET2202209-060	12-Apr-2022 13:10	0874_SW110_220412		✓
ET2202209-061	12-Apr-2022 13:10	0874_QC102_220412		✓
ET2202209-062	12-Apr-2022 14:45	0874_SW210_220412		✓
ET2202209-063	12-Apr-2022 15:30	0874_SW116_220412		✓
ET2202209-064	12-Apr-2022 10:00	0874_SW112_220412		✓
ET2202209-065	12-Apr-2022 14:45	0874_SW109_220412		✓
ET2202209-066	12-Apr-2022 13:45	0874_SW111_220412		✓
ET2202209-067	13-Apr-2022 08:39	0874_MW136_220413		✓
ET2202209-068	13-Apr-2022 09:09	0874_SW131_220413		✓
ET2202209-070	13-Apr-2022 09:10	0874_SW126_220413		✓
ET2202209-072	13-Apr-2022 09:23	0874_MW244_220413		✓
ET2202209-073	13-Apr-2022 09:54	0874_MW242_220413		✓
ET2202209-074	13-Apr-2022 09:55	0874_QC113_220413		✓
ET2202209-075	13-Apr-2022 10:03	0874_MW241_220413		✓
ET2202209-076	13-Apr-2022 10:13	0874_MW004_220413		✓
ET2202209-077	13-Apr-2022 10:20	0874_MW122_220413		✓
ET2202209-078	13-Apr-2022 10:28	0874_MW002_220413		✓
ET2202209-079	13-Apr-2022 10:36	0874_MW135_220413		✓
ET2202209-080	13-Apr-2022 11:39	0874_MW056_220413		✓
ET2202209-081	13-Apr-2022 11:50	0874_MW057_220413		✓
ET2202209-082	13-Apr-2022 12:06	0874_MW043_220413		✓
ET2202209-083	13-Apr-2022 12:06	0874_QC114_220413		✓
ET2202209-084	13-Apr-2022 12:18	0874_MW009_220413		✓
ET2202209-085	13-Apr-2022 15:23	0874_QC304_220413	✓	
ET2202209-098	13-Apr-2022 12:00	0874_SW209_220413		✓
ET2202209-099	13-Apr-2022 14:30	0874_QC108_220413		✓
ET2202209-100	13-Apr-2022 15:15	0874_QC303_220413		✓
ET2202209-101	13-Apr-2022 14:30	0874_SW102_220413		✓
ET2202209-102	13-Apr-2022 16:36	0874_SW106_220413		✓
ET2202209-103	13-Apr-2022 13:30	0874_SW001_220413		✓
ET2202209-104	13-Apr-2022 14:00	0874_SW125_220413		✓
ET2202209-105	13-Apr-2022 13:10	0874_SW010_220413		✓

CERTIFICATE OF ANALYSIS

Work Order : **ET2202285**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address :
 BRISBANE
Telephone : ----
Project : QLD_0874_PFSOMP
Order number : 60612487_2.1
C-O-C number : 36480
Sampler : [REDACTED]
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 105
No. of samples analysed : 105

Page : 1 of 53
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 27-Apr-2022 08:50
Date Analysis Commenced : 28-Apr-2022
Issue Date : 18-May-2022 15:40



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X - PFAS: Samples "0874_SD123_220421" & "0874_SD019_220421" required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. Surrogate recoveries not determined.
- EP231X-INJ PFAS: Samples "0874_MW081_220420", "0874_MW021_220421", & "0874_MW248_220421" required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: The LOR of particular analytes have been raised due to sample matrix interferences.
- EP231X PFAS: High LCS recovery deemed acceptable as all associated analyte results are less than LOR
- EP231X PFAS: Particular samples required dilution due to sample matrix. LOR values have been adjusted accordingly.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Whole bottle extraction was not possible for particular samples. Samples required dilution prior to extraction due to matrix interference (sediment) or due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.
- EP231X-INJ: The direct injection LCMSMS method may be used where the sample matrix is not suitable for Solid Phase Extraction (e.g. significant particulate load) or where only a single sample container is received.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD123_220421	0874_SD019_220421	0874_SD121_220421	----	----
Sampling date / time				21-Apr-2022 13:00	21-Apr-2022 12:45	21-Apr-2022 12:00	----	----	
Compound	CAS Number	LOR	Unit	ET2202285-083	ET2202285-084	ET2202285-085	-----	-----	
				Result	Result	Result	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	25.5	27.7	56.4	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0005	0.0630	0.0006	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0007	0.0755	0.0006	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0086	0.651	0.0049	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0005	0.0616	<0.0002	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.142	1.64	0.0415	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0048	<0.0050	<0.0002	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.025	<0.001	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	0.0228	<0.0002	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0019	0.180	0.0006	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	0.0125	<0.0002	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0006	0.0464	<0.0002	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	<0.0125	<0.0005	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0039	<0.0050	<0.0002	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0125	<0.0005	----	----	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD123_220421	0874_SD019_220421	0874_SD121_220421	----	----
Sampling date / time				21-Apr-2022 13:00	21-Apr-2022 12:45	21-Apr-2022 12:00	----	----	
Compound	CAS Number	LOR	Unit	ET2202285-083	ET2202285-084	ET2202285-085	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0125	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0125	<0.0005	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0125	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0050	<0.0002	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0050	<0.0005	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.158	2.75	0.0482	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.151	2.29	0.0464	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.153	2.62	0.0476	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	Not Determined	Not Determined	116	----	----	
13C8-PFOA	----	0.0002	%	Not Determined	Not Determined	101	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW204_220414	0874_MW205_220414	0874_MW206_220414	0874_MW207_220414	0874_MW208_220414
Sampling date / time				14-Apr-2022 11:00	14-Apr-2022 11:40	14-Apr-2022 12:03	14-Apr-2022 11:30	14-Apr-2022 13:15	
Compound	CAS Number	LOR	Unit	ET2202285-001	ET2202285-002	ET2202285-003	ET2202285-004	ET2202285-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.08	0.07	1.76	<0.02	0.09	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.03	1.86	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.02	0.08	9.56	<0.01	0.15	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.11	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.02	<0.01	<0.04	<0.01	0.06	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.6	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.84	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	4.26	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.25	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	<0.01	0.08	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW204_220414	0874_MW205_220414	0874_MW206_220414	0874_MW207_220414	0874_MW208_220414
Sampling date / time				14-Apr-2022 11:00	14-Apr-2022 11:40	14-Apr-2022 12:03	14-Apr-2022 11:30	14-Apr-2022 13:15	
Compound	CAS Number	LOR	Unit	ET2202285-001	ET2202285-002	ET2202285-003	ET2202285-004	ET2202285-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.02	0.22	19.2	<0.01	0.30	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.02	0.08	9.56	<0.01	0.21	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.02	0.19	17.4	<0.01	0.30	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.3	99.0	97.2	95.1	94.1	
13C8-PFOA	----	0.02	%	95.5	97.7	94.9	95.5	96.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW211_220419	0874_MW212_220414	0874_MW213_220414	0874_MW214_220414	0874_MW215_220414
Sampling date / time					19-Apr-2022 11:20	14-Apr-2022 16:00	14-Apr-2022 15:45	14-Apr-2022 15:20	14-Apr-2022 14:45
Compound	CAS Number	LOR	Unit	ET2202285-006	ET2202285-007	ET2202285-008	ET2202285-009	ET2202285-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.05	<0.02	0.12	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	<0.01	0.03	<0.01	0.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.06	0.04	0.10	0.02	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW211_220419	0874_MW212_220414	0874_MW213_220414	0874_MW214_220414	0874_MW215_220414
Sampling date / time					19-Apr-2022 11:20	14-Apr-2022 16:00	14-Apr-2022 15:45	14-Apr-2022 15:20	14-Apr-2022 14:45
Compound	CAS Number	LOR	Unit	ET2202285-006	ET2202285-007	ET2202285-008	ET2202285-009	ET2202285-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.09	0.04	0.18	0.02	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	0.04	0.13	0.02	0.08	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.09	0.04	0.18	0.02	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.9	92.8	108	93.5	112	
13C8-PFOA	----	0.02	%	107	96.5	99.4	100	98.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW216_220414	0874_MW217_220414	0874_MW218_220414	0874_MW219_220414	0874_MW220_220414
Sampling date / time				14-Apr-2022 14:20	14-Apr-2022 12:10	14-Apr-2022 12:00	14-Apr-2022 11:30	14-Apr-2022 11:50	
Compound	CAS Number	LOR	Unit	ET2202285-011	ET2202285-012	ET2202285-013	ET2202285-014	ET2202285-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.56	<0.01	6.09	0.05	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.54	<0.01	4.96	0.05	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.56	<0.01	5.87	0.05	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	105	90.5	105	114	
13C8-PFOA	----	0.02	%	100	99.4	97.6	96.5	93.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW225_220414	0874_MW233_220414	0874_MW234_220414	0874_MW235_220414	0874_MW237_220414
Sampling date / time				14-Apr-2022 10:45	14-Apr-2022 13:50	14-Apr-2022 09:25	14-Apr-2022 09:35	14-Apr-2022 10:15	
Compound	CAS Number	LOR	Unit	ET2202285-016	ET2202285-017	ET2202285-018	ET2202285-019	ET2202285-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	<0.02	<0.02	<0.20	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	<0.01	0.03	0.12	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.30	0.01	0.09	0.06	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.18	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.29	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.12	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	<0.01	0.03	0.23	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.03	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW225_220414	0874_MW233_220414	0874_MW234_220414	0874_MW235_220414	0874_MW237_220414
Sampling date / time				14-Apr-2022 10:45	14-Apr-2022 13:50	14-Apr-2022 09:25	14-Apr-2022 09:35	14-Apr-2022 10:15	
Compound	CAS Number	LOR	Unit	ET2202285-016	ET2202285-017	ET2202285-018	ET2202285-019	ET2202285-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.46	0.01	0.15	1.15	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.40	0.01	0.12	0.18	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.46	0.01	0.15	1.10	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	96.9	92.0	93.1	92.5	
13C8-PFOA	----	0.02	%	96.6	102	96.2	92.6	95.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW239_220414	0874_MW240_220414	0874_MW252_220414	0874_MW255_220414	0874_MW261_220414
Sampling date / time				14-Apr-2022 10:10	14-Apr-2022 09:36	14-Apr-2022 14:15	14-Apr-2022 09:55	14-Apr-2022 13:20	
Compound	CAS Number	LOR	Unit	ET2202285-021	ET2202285-022	ET2202285-023	ET2202285-024	ET2202285-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.02	<0.02	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.04	<0.01	<0.02	0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.19	<0.02	<0.01	<0.02	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW239_220414	0874_MW240_220414	0874_MW252_220414	0874_MW255_220414	0874_MW261_220414
Sampling date / time				14-Apr-2022 10:10	14-Apr-2022 09:36	14-Apr-2022 14:15	14-Apr-2022 09:55	14-Apr-2022 13:20	
Compound	CAS Number	LOR	Unit	ET2202285-021	ET2202285-022	ET2202285-023	ET2202285-024	ET2202285-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.10	0.28	<0.01	0.02	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.23	<0.01	<0.01	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.28	<0.01	0.02	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	110	101	103	103	
13C8-PFOA	----	0.02	%	107	99.4	103	106	97.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW266_220414	0874_MW267_220414	0874_MW269_220414	0874_MW300_220414	0874_MW467_220414
Sampling date / time				14-Apr-2022 11:20	14-Apr-2022 11:00	14-Apr-2022 14:00	14-Apr-2022 09:00	14-Apr-2022 15:21	
Compound	CAS Number	LOR	Unit	ET2202285-026	ET2202285-027	ET2202285-028	ET2202285-029	ET2202285-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.10	<0.02	0.40	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.08	<0.02	0.05	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.30	<0.01	0.34	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.02	0.21	0.03	0.09	0.07	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW266_220414	0874_MW267_220414	0874_MW269_220414	0874_MW300_220414	0874_MW467_220414
Sampling date / time				14-Apr-2022 11:20	14-Apr-2022 11:00	14-Apr-2022 14:00	14-Apr-2022 09:00	14-Apr-2022 15:21	
Compound	CAS Number	LOR	Unit	ET2202285-026	ET2202285-027	ET2202285-028	ET2202285-029	ET2202285-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.69	0.03	0.90	0.07	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.51	0.03	0.43	0.07	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.61	0.03	0.85	0.07	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	109	94.0	100	99.4	
13C8-PFOA	----	0.02	%	102	96.1	104	109	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_220419	0874_MW301_220414	0874_QC115_220414	0874_QC116_220414	0874_QC117_220414
				Sampling date / time	19-Apr-2022 12:00	14-Apr-2022 14:41	14-Apr-2022 12:00	14-Apr-2022 12:00	14-Apr-2022 12:00
Compound	CAS Number	LOR	Unit	ET2202285-031	ET2202285-032	ET2202285-033	ET2202285-034	ET2202285-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.03	0.06	0.03	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.04	0.11	0.16	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.18	0.33	0.50	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.04	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.05	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_220419	0874_MW301_220414	0874_QC115_220414	0874_QC116_220414	0874_QC117_220414
Sampling date / time					19-Apr-2022 12:00	14-Apr-2022 14:41	14-Apr-2022 12:00	14-Apr-2022 12:00	14-Apr-2022 12:00
Compound	CAS Number	LOR	Unit	ET2202285-031	ET2202285-032	ET2202285-033	ET2202285-034	ET2202285-035	ET2202285-035
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.11	0.37	0.51	0.69	0.03	0.03
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	0.22	0.44	0.66	0.03	0.03
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.11	0.37	0.51	0.69	0.03	0.03
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.8	102	106	106	86.1	86.1
13C8-PFOA	----	0.02	%	107	104	101	98.6	96.8	96.8



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC118_220419	0874_QC305_220414	0874_QC306_220419	0874_QC501_220414	0874_MW046_220420
Sampling date / time				19-Apr-2022 12:00	14-Apr-2022 16:30	19-Apr-2022 16:30	14-Apr-2022 07:00	20-Apr-2022 11:45	
Compound	CAS Number	LOR	Unit	ET2202285-036	ET2202285-037	ET2202285-038	ET2202285-039	ET2202285-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	5.12	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	7.98	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	<0.01	<0.01	<0.01	115	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	8.68	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	<0.01	<0.01	<0.01	115	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	3.45	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	35.0	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	2.25	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	6.72	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.62	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.25	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.62	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.62	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC118_220419	0874_QC305_220414	0874_QC306_220419	0874_QC501_220414	0874_MW046_220420
Sampling date / time					19-Apr-2022 12:00	14-Apr-2022 16:30	19-Apr-2022 16:30	14-Apr-2022 07:00	20-Apr-2022 11:45
Compound	CAS Number	LOR	Unit	ET2202285-036	ET2202285-037	ET2202285-038	ET2202285-039	ET2202285-040	ET2202285-040
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.62
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.62
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.25
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.25
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.11	<0.01	<0.01	<0.01	<0.01	299
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.11	<0.01	<0.01	<0.01	<0.01	230
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.11	<0.01	<0.01	<0.01	<0.01	282
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	99.0	90.9	107	102	102
13C8-PFOA	----	0.02	%	110	92.0	97.5	98.0	100	100



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_220420	0874_MW005_220420	0874_MW081_220420	0874_MW125_220420	0874_MW222_220420
Sampling date / time					20-Apr-2022 14:29	20-Apr-2022 14:37	20-Apr-2022 14:49	20-Apr-2022 14:58	20-Apr-2022 16:14
Compound	CAS Number	LOR	Unit	ET2202285-041	ET2202285-042	ET2202285-043	ET2202285-044	ET2202285-045	ET2202285-045
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	----	116	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	----	157	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	----	----	2040	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	----	134	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	----	828	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	----	<5.00	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	48.0	----	0.19	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	64.8	----	0.21	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.56	988	----	3.12	0.06	0.06
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	59.5	----	0.15	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.25	817	----	14.0	0.14	0.14
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	----	----	<25.0	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	----	51.0	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	----	344	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	----	44.5	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	----	97.5	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	----	<5.00	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	----	<5.00	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	----	<5.00	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	----	<5.00	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_220420	0874_MW005_220420	0874_MW081_220420	0874_MW125_220420	0874_MW222_220420
Sampling date / time					20-Apr-2022 14:29	20-Apr-2022 14:37	20-Apr-2022 14:49	20-Apr-2022 14:58	20-Apr-2022 16:14
Compound	CAS Number	LOR	Unit	ET2202285-041	ET2202285-042	ET2202285-043	ET2202285-044	ET2202285-045	
				Result	Result	Result	Result	Result	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	----	<5.00	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	----	<12.5	----	----	
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	15.5	----	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.22	32.2	----	0.11	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.18	208	----	0.78	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	21.5	----	0.04	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	36.8	----	0.08	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<6.25	----	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	----	<5.00	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	----	<12.5	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	----	<12.5	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	----	<12.5	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	----	<12.5	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	----	<5.00	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	----	<5.00	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_220420	0874_MW005_220420	0874_MW081_220420	0874_MW125_220420	0874_MW222_220420
Sampling date / time					20-Apr-2022 14:29	20-Apr-2022 14:37	20-Apr-2022 14:49	20-Apr-2022 14:58	20-Apr-2022 16:14
Compound	CAS Number	LOR	Unit	ET2202285-041	ET2202285-042	ET2202285-043	ET2202285-044	ET2202285-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<6.25	----	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<6.25	----	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<6.25	----	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<6.25	----	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<2.50	----	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	----	<5.00	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	----	<5.00	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	----	<5.00	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	----	<5.00	----	----	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<2.50	----	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<2.50	----	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<2.50	----	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<2.50	----	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	----	----	3810	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW090_220420	0874_MW005_220420	0874_MW081_220420	0874_MW125_220420	0874_MW222_220420
Sampling date / time					20-Apr-2022 14:29	20-Apr-2022 14:37	20-Apr-2022 14:49	20-Apr-2022 14:58	20-Apr-2022 16:14
Compound	CAS Number	LOR	Unit	ET2202285-041	ET2202285-042	ET2202285-043	ET2202285-044	ET2202285-045	
				Result	Result	Result	Result	Result	
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	----	2870	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	----	3520	----	----	
Sum of PFAS	----	0.01	µg/L	3.13	2290	----	18.7	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.81	1800	----	17.1	0.20	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.06	2170	----	18.3	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.7	101	----	94.0	106	
13C4-PFOS	----	0.02	%	----	----	90.4	----	----	
13C8-PFOA	----	0.02	%	99.7	94.8	----	100	98.2	
13C8-PFOA	----	0.02	%	----	----	93.3	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW258_220420	0874_MW260_220420	0874_MW268_220420	0874_MW259_220420	0874_MW263_220420
Sampling date / time					20-Apr-2022 13:45	20-Apr-2022 17:16	20-Apr-2022 15:00	20-Apr-2022 14:20	20-Apr-2022 12:30
Compound	CAS Number	LOR	Unit	ET2202285-046	ET2202285-047	ET2202285-048	ET2202285-049	ET2202285-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.02	<0.02	0.05	0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	<0.01	<0.01	0.06	0.18	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	<0.01	<0.01	0.07	0.17	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW258_220420	0874_MW260_220420	0874_MW268_220420	0874_MW259_220420	0874_MW263_220420
Sampling date / time					20-Apr-2022 13:45	20-Apr-2022 17:16	20-Apr-2022 15:00	20-Apr-2022 14:20	20-Apr-2022 12:30
Compound	CAS Number	LOR	Unit	ET2202285-046	ET2202285-047	ET2202285-048	ET2202285-049	ET2202285-050	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.13	0.02	<0.01	0.18	0.42	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	<0.01	<0.01	0.13	0.35	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.13	0.02	<0.01	0.18	0.42	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	107	104	95.7	97.0	
13C8-PFOA	----	0.02	%	101	108	99.7	101	97.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW270_220420	0874_MW221_220420	0874_MW256_220420	0874_QC119_220420	0874_QC307_220420
Sampling date / time				20-Apr-2022 12:00	20-Apr-2022 17:13	20-Apr-2022 11:15	20-Apr-2022 12:00	20-Apr-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2202285-051	ET2202285-052	ET2202285-053	ET2202285-054	ET2202285-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.38	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.26	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	1.22	0.01	0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.06	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.73	0.09	0.10	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.07	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.36	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.06	0.05	0.04	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW270_220420	0874_MW221_220420	0874_MW256_220420	0874_QC119_220420	0874_QC307_220420
Sampling date / time					20-Apr-2022 12:00	20-Apr-2022 17:13	20-Apr-2022 11:15	20-Apr-2022 12:00	20-Apr-2022 15:00
Compound	CAS Number	LOR	Unit	ET2202285-051	ET2202285-052	ET2202285-053	ET2202285-054	ET2202285-055	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.62	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	3.70	0.15	0.15	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	1.95	0.10	0.11	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	3.38	0.15	0.15	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	88.3	100	97.1	95.0	
13C8-PFOA	----	0.02	%	103	97.0	98.2	95.1	97.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW251_220420	0874_MW142_220420	0874_MW250_220420	0874_MW118_220420	0874_MW140_220420
Sampling date / time				20-Apr-2022 10:47	20-Apr-2022 10:23	20-Apr-2022 11:03	20-Apr-2022 09:17	20-Apr-2022 09:48	
Compound	CAS Number	LOR	Unit	ET2202285-056	ET2202285-057	ET2202285-058	ET2202285-059	ET2202285-060	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	<0.02	0.50	0.98	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	<0.02	0.27	0.27	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.25	0.03	1.82	0.35	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.05	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.18	0.02	1.00	0.38	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.8	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.10	0.43	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.05	<0.02	0.33	0.35	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.03	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW251_220420	0874_MW142_220420	0874_MW250_220420	0874_MW118_220420	0874_MW140_220420
Sampling date / time					20-Apr-2022 10:47	20-Apr-2022 10:23	20-Apr-2022 11:03	20-Apr-2022 09:17	20-Apr-2022 09:48
Compound	CAS Number	LOR	Unit	ET2202285-056	ET2202285-057	ET2202285-058	ET2202285-059	ET2202285-060	ET2202285-060
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.54	0.05	4.10	3.58		<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.43	0.05	2.82	0.73		<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.51	0.05	3.78	3.31		<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	110	107	107		102
13C8-PFOA	----	0.02	%	98.6	106	99.0	103		102



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW129_220420	0874_MW203_220421	0874_MW202_220421	0874_MW201_220421	0874_MW262_220421
Sampling date / time				20-Apr-2022 08:40	21-Apr-2022 08:55	21-Apr-2022 09:10	21-Apr-2022 09:22	21-Apr-2022 10:52	
Compound	CAS Number	LOR	Unit	ET2202285-061	ET2202285-062	ET2202285-063	ET2202285-064	ET2202285-065	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.13	<0.02	<0.04	<0.02	<0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.32	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	5.45	<0.01	0.04	<0.01	0.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.63	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	22.9	<0.01	<0.01	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	5.7	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	7.03	<0.02	<0.02	<0.02	0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	4.86	<0.02	<0.02	<0.02	0.08	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.79	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.68	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.13	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	0.09	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.08	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW129_220420	0874_MW203_220421	0874_MW202_220421	0874_MW201_220421	0874_MW262_220421
Sampling date / time					20-Apr-2022 08:40	21-Apr-2022 08:55	21-Apr-2022 09:10	21-Apr-2022 09:22	21-Apr-2022 10:52
Compound	CAS Number	LOR	Unit	ET2202285-061	ET2202285-062	ET2202285-063	ET2202285-064	ET2202285-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	0.08	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	9.32	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.58	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	62.8	<0.01	0.04	<0.01	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	28.4	<0.01	0.04	<0.01	0.10	
Sum of PFAS (WA DER List)	----	0.01	µg/L	60.4	<0.01	0.04	<0.01	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.4	97.7	109	97.0	114	
13C8-PFOA	----	0.02	%	97.3	98.2	100	98.6	95.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW257_220421	0874_MW231_220421	0874_MW254_220421	0874_MW236_220421	0874_MW238_220421
Sampling date / time				21-Apr-2022 11:24	21-Apr-2022 11:00	21-Apr-2022 09:15	21-Apr-2022 08:45	21-Apr-2022 11:45	
Compound	CAS Number	LOR	Unit	ET2202285-066	ET2202285-067	ET2202285-068	ET2202285-069	ET2202285-070	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.04	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	<0.01	<0.01	<0.01	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	<0.01	<0.01	<0.02	0.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.22	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.13	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.07	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW257_220421	0874_MW231_220421	0874_MW254_220421	0874_MW236_220421	0874_MW238_220421
Sampling date / time					21-Apr-2022 11:24	21-Apr-2022 11:00	21-Apr-2022 09:15	21-Apr-2022 08:45	21-Apr-2022 11:45
Compound	CAS Number	LOR	Unit	ET2202285-066	ET2202285-067	ET2202285-068	ET2202285-069	ET2202285-070	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	<0.01	<0.01	<0.01	0.49	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	<0.01	<0.01	<0.01	0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	<0.01	<0.01	<0.01	0.49	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	112	110	114	102	
13C8-PFOA	----	0.02	%	98.5	105	100	102	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW264_220421	0874_MW055_220421	0874_MW054_220421	0874_QC110_220421	0874_MW015_220421
Sampling date / time				21-Apr-2022 08:00	21-Apr-2022 12:07	21-Apr-2022 12:27	21-Apr-2022 12:27	21-Apr-2022 12:27	21-Apr-2022 12:49
Compound	CAS Number	LOR	Unit	ET2202285-071	ET2202285-072	ET2202285-073	ET2202285-074	ET2202285-075	ET2202285-075
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.23	11.8	3.69	3.93	54.9	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.14	12.2	3.99	4.19	60.8	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.67	80.4	22.9	25.5	538	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	5.20	2.01	2.30	29.9	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.07	196	82.8	85.8	370	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	3.0	<1.2	<1.2	13.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	6.25	1.91	1.99	22.9	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	32.0	7.61	7.92	130	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	3.95	0.68	0.77	15.2	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	9.80	1.82	1.80	28.6	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<1.25	<0.58	<0.60	<2.50	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<1.25	<0.58	<0.60	<2.50	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<1.25	<0.58	<0.60	<2.50	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW264_220421	0874_MW055_220421	0874_MW054_220421	0874_QC110_220421	0874_MW015_220421
Sampling date / time				21-Apr-2022 08:00	21-Apr-2022 12:07	21-Apr-2022 12:27	21-Apr-2022 12:27	21-Apr-2022 12:49	
Compound	CAS Number	LOR	Unit	ET2202285-071	ET2202285-072	ET2202285-073	ET2202285-074	ET2202285-075	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<1.25	<0.58	<0.60	<2.50	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<1.25	<0.58	<0.60	<2.50	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.50	<0.23	<0.24	<1.00	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.50	<0.23	<0.24	<1.00	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.50	<0.23	<0.24	<1.00	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.50	<0.23	<0.24	<1.00	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.50	<0.23	<0.24	<1.00	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.21	361	127	134	1260	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.74	276	106	111	908	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.07	343	121	128	1170	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.3	87.6	116	121	118	
13C8-PFOA	----	0.02	%	100	90.5	103	103	110	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_220421	0874_QC120_220421	0874_MW021_220421	0874_MW139_220421	0874_MW138_220421
Sampling date / time				21-Apr-2022 13:03	21-Apr-2022 13:03	21-Apr-2022 13:11	21-Apr-2022 13:31	21-Apr-2022 13:39	
Compound	CAS Number	LOR	Unit	ET2202285-076	ET2202285-077	ET2202285-078	ET2202285-079	ET2202285-080	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	----	400	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	----	462	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	----	----	7690	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	----	508	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	----	4480	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	----	<20.0	----	----	
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	26.2	26.1	----	46.0	48.7	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	33.7	32.0	----	45.4	51.3	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	327	346	----	271	383	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	25.6	28.6	----	25.8	23.8	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	311	296	----	622	476	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	----	----	106	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	----	252	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	----	1280	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	----	144	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	----	416	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	----	<20.0	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	----	<20.0	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	----	<20.0	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	----	<20.0	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_220421	0874_QC120_220421	0874_MW021_220421	0874_MW139_220421	0874_MW138_220421
Sampling date / time					21-Apr-2022 13:03	21-Apr-2022 13:03	21-Apr-2022 13:11	21-Apr-2022 13:31	21-Apr-2022 13:39
Compound	CAS Number	LOR	Unit	ET2202285-076	ET2202285-077	ET2202285-078	ET2202285-079	ET2202285-080	
				Result	Result	Result	Result	Result	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	----	<20.0	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	----	<50.0	----	----	
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	7.4	7.8	----	18.2	25.4	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	13.4	13.2	----	25.4	30.4	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	66.8	73.4	----	124	116	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	9.10	8.45	----	19.6	12.5	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	21.4	18.6	----	40.3	21.6	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<1.25	----	<2.50	<2.50	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	----	<20.0	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	----	<50.0	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	----	<50.0	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	----	<50.0	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	----	<50.0	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	----	<20.0	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	----	<20.0	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_220421	0874_QC120_220421	0874_MW021_220421	0874_MW139_220421	0874_MW138_220421
Sampling date / time				21-Apr-2022 13:03	21-Apr-2022 13:03	21-Apr-2022 13:11	21-Apr-2022 13:31	21-Apr-2022 13:39	
Compound	CAS Number	LOR	Unit	ET2202285-076	ET2202285-077	ET2202285-078	ET2202285-079	ET2202285-080	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<1.25	----	<2.50	<2.50	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<1.25	----	<2.50	<2.50	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<1.25	----	<2.50	<2.50	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<1.25	----	<2.50	<2.50	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.50	----	<1.00	<1.00	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	----	<20.0	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	----	<20.0	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	----	<20.0	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	----	<20.0	----	----	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.50	----	<1.00	<1.00	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.50	<0.50	----	12.7	<1.00	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.50	----	<1.00	<1.00	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.51	----	<1.00	<1.00	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	----	----	15700	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW016_220421	0874_QC120_220421	0874_MW021_220421	0874_MW139_220421	0874_MW138_220421
Sampling date / time				21-Apr-2022 13:03	21-Apr-2022 13:03	21-Apr-2022 13:11	21-Apr-2022 13:31	21-Apr-2022 13:39	
Compound	CAS Number	LOR	Unit	ET2202285-076	ET2202285-077	ET2202285-078	ET2202285-079	ET2202285-080	
				Result	Result	Result	Result	Result	
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	----	12200	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	----	14800	----	----	
Sum of PFAS	----	0.01	µg/L	842	850	----	1250	1190	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	638	642	----	893	859	
Sum of PFAS (WA DER List)	----	0.01	µg/L	782	790	----	1180	1110	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	92.3	93.4	----	86.9	102	
13C4-PFOS	----	0.02	%	----	----	71.1	----	----	
13C8-PFOA	----	0.02	%	95.1	91.8	----	98.9	95.3	
13C8-PFOA	----	0.02	%	----	----	73.4	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW110_220421	0874_MW109_220421	0874_SW019_220421	0874_SW121_220421	0874_SW123_220421
Sampling date / time				21-Apr-2022 13:51	21-Apr-2022 14:06	21-Apr-2022 12:45	21-Apr-2022 12:00	21-Apr-2022 13:00	
Compound	CAS Number	LOR	Unit	ET2202285-081	ET2202285-082	ET2202285-086	ET2202285-087	ET2202285-088	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	7.64	33.7	0.96	0.16	1.81	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	10.0	29.0	0.81	0.09	1.64	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	108	210	4.52	0.44	10.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	8.88	19.2	0.33	<0.02	0.75	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	132	454	4.69	0.32	14.8	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.7	13.4	<0.5	<0.1	<0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	3.67	18.1	0.78	<0.08	1.07	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	20.7	89.2	2.41	0.07	3.17	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	2.85	10.7	0.12	<0.02	0.48	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.17	21.4	0.23	<0.01	0.70	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.56	<1.25	<0.05	<0.05	<0.25	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.56	<1.25	<0.05	<0.05	<0.25	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.56	<1.25	<0.05	<0.05	<0.25	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW110_220421	0874_MW109_220421	0874_SW019_220421	0874_SW121_220421	0874_SW123_220421
Sampling date / time				21-Apr-2022 13:51	21-Apr-2022 14:06	21-Apr-2022 12:45	21-Apr-2022 12:00	21-Apr-2022 13:00	
Compound	CAS Number	LOR	Unit	ET2202285-081	ET2202285-082	ET2202285-086	ET2202285-087	ET2202285-088	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.56	<1.25	<0.05	<0.05	<0.25	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.56	<1.25	<0.05	<0.05	<0.25	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.22	<0.50	<0.02	<0.02	<0.10	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.22	<0.50	<0.05	<0.05	<0.10	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.22	4.65	<0.05	<0.05	0.23	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.22	<0.50	<0.05	<0.05	<0.10	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.22	<0.50	<0.05	<0.05	<0.10	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	302	903	14.8	1.08	35.0	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	240	664	9.21	0.76	25.1	
Sum of PFAS (WA DER List)	----	0.01	µg/L	283	855	13.7	0.99	32.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	116	109	93.8	103	120	
13C8-PFOA	----	0.02	%	99.0	104	101	101	93.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW247_220421	0874_MW248_220421	0874_MW026_220421	0874_MW033_220421	0874_MW034_220421
Sampling date / time					21-Apr-2022 12:40	21-Apr-2022 12:30	21-Apr-2022 15:45	21-Apr-2022 15:30	21-Apr-2022 15:30
Compound	CAS Number	LOR	Unit		ET2202285-089	ET2202285-090	ET2202285-091	ET2202285-092	ET2202285-093
					Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	40.9	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	47.9	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	----	500	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	72.8	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	1140	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	<1.00	----	----	----	----
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.85	----	0.14	1.02	6.06	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.05	----	0.16	1.11	4.15	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	14.6	----	2.58	8.56	11.4	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.38	----	0.57	0.68	0.56	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	74.4	----	27.1	19.7	2.21	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.25	----	<0.10	0.43	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.10	µg/L	----	7.70	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	14.9	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	114	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	10.5	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	45.2	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	<1.00	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	<1.00	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	<1.00	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	<1.00	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW247_220421	0874_MW248_220421	0874_MW026_220421	0874_MW033_220421	0874_MW034_220421
Sampling date / time					21-Apr-2022 12:40	21-Apr-2022 12:30	21-Apr-2022 15:45	21-Apr-2022 15:30	21-Apr-2022 15:30
Compound	CAS Number	LOR	Unit		ET2202285-089	ET2202285-090	ET2202285-091	ET2202285-092	ET2202285-093
				Result	Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	<1.00	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	<2.50	----	----	----	----
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<1.2	----	<0.5	<0.5	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.48	----	<0.10	0.91	1.06	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.15	----	0.41	3.05	4.48	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.38	----	<0.10	0.75	0.39	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.52	----	0.31	1.54	0.47	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.62	----	<0.24	<0.25	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	<1.00	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	<2.50	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	<2.50	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	<2.50	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	<2.50	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	<1.00	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	<1.00	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW247_220421	0874_MW248_220421	0874_MW026_220421	0874_MW033_220421	0874_MW034_220421
Sampling date / time					21-Apr-2022 12:40	21-Apr-2022 12:30	21-Apr-2022 15:45	21-Apr-2022 15:30	21-Apr-2022 15:30
Compound	CAS Number	LOR	Unit	ET2202285-089	ET2202285-090	ET2202285-091	ET2202285-092	ET2202285-093	ET2202285-093
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.38	----	0.11	0.21	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.62	----	<0.24	<0.25	<0.06	<0.06
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.62	----	<0.24	<0.25	<0.06	<0.06
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.62	----	<0.24	<0.25	<0.06	<0.06
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.62	----	<0.24	<0.25	<0.06	<0.06
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.25	----	<0.10	<0.10	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	<1.00	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	<1.00	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	<1.00	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	<1.00	----	----	----	----
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.25	----	<0.10	<0.10	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.25	----	<0.10	<0.10	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.25	----	<0.10	<0.10	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.25	----	<0.10	<0.10	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	----	1990	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW247_220421	0874_MW248_220421	0874_MW026_220421	0874_MW033_220421	0874_MW034_220421
Sampling date / time					21-Apr-2022 12:40	21-Apr-2022 12:30	21-Apr-2022 15:45	21-Apr-2022 15:30	21-Apr-2022 15:30
Compound	CAS Number	LOR	Unit	ET2202285-089	ET2202285-090	ET2202285-091	ET2202285-092	ET2202285-093	ET2202285-093
				Result	Result	Result	Result	Result	Result
EP231P: PFAS Sums - Continued									
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	1640	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	1870	----	----	----	----
Sum of PFAS	----	0.01	µg/L	97.3	----	31.4	38.0	31.4	31.4
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	89.0	----	29.7	28.3	13.6	13.6
Sum of PFAS (WA DER List)	----	0.01	µg/L	94.9	----	30.5	35.5	26.7	26.7
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	----	109	88.6	101	101
13C4-PFOS	----	0.02	%	----	111	----	----	----	----
13C8-PFOA	----	0.02	%	98.7	----	99.5	100	97.1	97.1
13C8-PFOA	----	0.02	%	----	97.7	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC308_220421	0874_MW120_220421	0874_MW116_220421	0874_MW063_220421	0874_MW038_220421
Sampling date / time				21-Apr-2022 16:30	21-Apr-2022 16:00	21-Apr-2022 15:10	21-Apr-2022 15:00	21-Apr-2022 14:30	
Compound	CAS Number	LOR	Unit	ET2202285-094	ET2202285-095	ET2202285-096	ET2202285-097	ET2202285-098	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	2.87	7.83	1.34	0.39	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	3.07	6.74	1.70	0.41	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	20.0	22.9	12.3	2.65	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	1.06	1.31	0.82	0.12	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.02	22.4	18.7	24.9	2.89	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.9	2.7	0.5	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	1.23	3.32	0.91	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	6.15	15.1	3.64	0.52	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.75	2.52	0.48	0.11	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	1.69	3.58	1.03	0.16	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.12	<0.06	<0.12	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.12	<0.06	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.12	<0.06	<0.12	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC308_220421	0874_MW120_220421	0874_MW116_220421	0874_MW063_220421	0874_MW038_220421
Sampling date / time				21-Apr-2022 16:30	21-Apr-2022 16:00	21-Apr-2022 15:10	21-Apr-2022 15:00	21-Apr-2022 14:30	
Compound	CAS Number	LOR	Unit	ET2202285-094	ET2202285-095	ET2202285-096	ET2202285-097	ET2202285-098	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.12	<0.06	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.12	<0.06	<0.12	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.05	<0.02	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	0.12	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	60.1	84.7	47.7	7.50	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	42.4	41.6	37.2	5.54	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	56.0	76.6	45.2	6.97	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	90.5	105	96.6	90.8	
13C8-PFOA	----	0.02	%	99.0	97.9	96.4	95.3	96.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW126_220422	0874_MW013_220422	0874_MW061_220422	0874_SW013_220422	0874_MW232_220422
				Sampling date / time	22-Apr-2022 09:41	22-Apr-2022 09:50	22-Apr-2022 10:12	22-Apr-2022 10:41	22-Apr-2022 11:26
Compound	CAS Number	LOR	Unit	ET2202285-099	ET2202285-100	ET2202285-101	ET2202285-102	ET2202285-103	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.14	20.8	0.48	<0.02	0.51	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.65	20.6	0.71	<0.02	0.46	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.02	83.0	7.75	0.07	3.64	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	11.2	0.57	<0.02	0.26	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.0	305	21.4	0.07	12.3	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.9	10.6	0.4	<0.1	<0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.86	13.7	0.36	<0.02	0.21	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.85	66.9	1.57	<0.02	0.70	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.28	12.2	0.22	<0.02	0.13	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.55	19.6	0.70	<0.02	0.30	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<1.25	<0.12	<0.06	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<1.25	<0.12	<0.06	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<1.25	<0.12	<0.06	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW126_220422	0874_MW013_220422	0874_MW061_220422	0874_SW013_220422	0874_MW232_220422
Sampling date / time				22-Apr-2022 09:41	22-Apr-2022 09:50	22-Apr-2022 10:12	22-Apr-2022 10:41	22-Apr-2022 11:26	
Compound	CAS Number	LOR	Unit	ET2202285-099	ET2202285-100	ET2202285-101	ET2202285-102	ET2202285-103	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<1.25	<0.12	<0.06	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<1.25	<0.12	<0.06	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.50	<0.05	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.50	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	4.60	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.50	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.50	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	26.4	568	34.2	0.14	18.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	19.0	388	29.2	0.14	15.9	
Sum of PFAS (WA DER List)	----	0.01	µg/L	25.6	536	32.9	0.14	17.8	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	92.4	102	97.6	92.1	
13C8-PFOA	----	0.02	%	97.9	101	99.5	98.3	96.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID		0874_MW470_220422	0874_QC309_220422	----	----	----
Sampling date / time			22-Apr-2022 12:11		22-Apr-2022 12:14		----	----	----
Compound	CAS Number	LOR	Unit	ET2202285-104	ET2202285-105	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	<0.02	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.13	<0.01	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.42	<0.01	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	<0.01	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_MW470_220422	0874_QC309_220422	----	----	----
Sampling date / time		22-Apr-2022 12:11		22-Apr-2022 12:14		----	----	----
Compound	CAS Number	LOR	Unit	ET2202285-104	ET2202285-105	-----	-----	-----
				Result	Result	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	0.66	<0.01	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.55	<0.01	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.66	<0.01	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	104	97.9	----	----	----
13C8-PFOA	----	0.02	%	101	98.3	----	----	----



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4309343)									
EB2211410-002	Anonymous	EA055: Moisture Content	----	0.1	%	61.6	61.6	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4309342)									
EB2211410-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0016	<0.0016	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2202229-004	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4309342)									
EB2211410-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4309342) - continued									
EB2211410-002	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ET2202229-004	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4309342)									
EB2211410-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202229-004	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4309342)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4309342) - continued									
EB2211410-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2202229-004	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312305)									
ET2202285-002	0874_MW205_220414	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.08	0.09	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.07	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202285-020	0874_MW237_220414	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit

EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312327)									
ET2202285-029	0874_MW300_220414	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.34	0.32	3.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.09	0.10	19.1	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.40	0.42	5.8	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.05	0.06	18.2	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202285-040	0874_MW046_220420	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	115	123	7.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	115	112	2.3	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312327) - continued									
ET2202285-040	0874_MW046_220420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	5.12	4.90	4.5	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	7.98	7.92	0.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	8.68	9.12	5.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.25	<0.25	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312337)									
ET2202285-082	0874_MW109_220421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	210	229	8.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	454	429	5.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	33.7	34.2	1.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	29.0	33.6	14.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	19.2	21.0	8.7	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.50	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312338)									
ET2202285-047	0874_MW260_220420	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202285-062	0874_MW203_220421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312339)									
ET2202285-065	0874_MW262_220421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	0.12	18.3	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202285-081	0874_MW110_220421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	108	102	5.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	132	128	3.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	7.64	6.99	8.9	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	10.0	9.42	6.4	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	8.88	8.72	1.9	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.22	<0.21	5.3	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312340)									
ET2202285-099	0874_MW126_220422	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.02	3.16	4.4	0% - 20%



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4312340) - continued											
ET2202285-099	0874_MW126_220422	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.0	13.5	16.7	0% - 20%		
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.14	1.18	3.5	0% - 20%		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.65	0.71	8.9	0% - 50%		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	0.20	5.8	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4318078)											
ET2202285-043	0874_MW081_220420	EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2040	2110	3.1	0% - 20%		
		EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	828	820	1.0	0% - 20%		
		EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	116	118	2.1	0% - 20%		
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	157	167	6.2	0% - 20%		
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	134	132	1.9	0% - 20%		
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<5.00	<5.00	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312305)											
ET2202285-002	0874_MW205_220414	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2202285-020	0874_MW237_220414	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312305) - continued											
ET2202285-020	0874_MW237_220414	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312327)											
ET2202285-029	0874_MW300_220414	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2202285-040	0874_MW046_220420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.72	6.12	9.3	0% - 20%
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	3.45	3.30	4.4	0% - 50%
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	35.0	35.6	1.9	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	2.25	2.18	3.4	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.25	<0.25	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.62	<0.62	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<1.2	<1.2	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312337)											
ET2202285-082	0874_MW109_220421			EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	21.4	21.3	0.7	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	18.1	20.0	10.2	0% - 20%		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	89.2	90.8	1.7	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	10.7	9.35	13.5	0% - 20%		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.50	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<1.25	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	13.4	14.6	8.2	No Limit		
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312338)									
		ET2202285-047	0874_MW260_220420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit		



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312338) - continued											
ET2202285-047	0874_MW260_220420	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
ET2202285-062	0874_MW203_220421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312339)									
ET2202285-065	0874_MW262_220421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.08	0.09	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2202285-081	0874_MW110_220421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	6.17	6.46	4.6	0% - 20%
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	3.67	3.72	1.1	0% - 50%
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	20.7	19.6	5.3	0% - 20%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	2.85	2.74	3.8	0% - 50%		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.22	<0.21	5.3	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.22	<0.21	5.3	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.22	<0.21	5.3	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.22	<0.21	5.3	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.22	<0.21	5.3	No Limit				



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312339) - continued									
ET2202285-081	0874_MW110_220421	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.56	<0.53	5.3	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.7	1.7	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4312340)									
ET2202285-099	0874_MW126_220422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.55	0.54	2.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.86	0.87	0.0	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.85	1.96	5.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.28	0.28	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	1.9	2.0	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4318078)									
ET2202285-043	0874_MW081_220420	EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	97.5	95.0	2.6	0% - 50%
		EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	51.0	51.0	0.0	0% - 50%
		EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	344	350	1.9	0% - 20%
		EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	44.5	47.0	5.5	No Limit
		EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<12.5	<12.5	0.0	No Limit
		EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<25.0	<25.0	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312305)									
ET2202285-002	0874_MW205_220414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312305) - continued									
ET2202285-002	0874_MW205_220414	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-020	0874_MW237_220414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312327)									
ET2202285-029	0874_MW300_220414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-040	0874_MW046_220420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.62	<0.62	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312327) - continued									
ET2202285-040	0874_MW046_220420	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312337)									
ET2202285-082	0874_MW109_220421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<1.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<1.25	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312338)									
ET2202285-047	0874_MW260_220420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-062	0874_MW203_220421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312338) - continued									
ET2202285-062	0874_MW203_220421	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312339)									
ET2202285-065	0874_MW262_220421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-081	0874_MW110_220421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.56	<0.53	5.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.56	<0.53	5.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.56	<0.53	5.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.56	<0.53	5.3	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312340)									
ET2202285-099	0874_MW126_220422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4312340) - continued									
ET2202285-099	0874_MW126_220422	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4318078)									
ET2202285-043	0874_MW081_220420	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<12.5	<12.5	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<12.5	<12.5	0.0	No Limit
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<12.5	<12.5	0.0	No Limit
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<12.5	<12.5	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312305)									
ET2202285-002	0874_MW205_220414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-020	0874_MW237_220414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312327)									
ET2202285-029	0874_MW300_220414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312327) - continued									
ET2202285-029	0874_MW300_220414	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-040	0874_MW046_220420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312337)									
ET2202285-082	0874_MW109_220421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	4.65	5.45	15.8	0% - 50%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.50	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.50	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312338)									
ET2202285-047	0874_MW260_220420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-062	0874_MW203_220421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312339)									
ET2202285-065	0874_MW262_220421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312339) - continued									
ET2202285-065	0874_MW262_220421	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202285-081	0874_MW110_220421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.22	<0.21	5.3	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.22	<0.21	5.3	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4312340)									
ET2202285-099	0874_MW126_220422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4318078)									
ET2202285-043	0874_MW081_220420	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<5.00	<5.00	0.0	No Limit
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<5.00	<5.00	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4312305)									
ET2202285-002	0874_MW205_220414	EP231X: Sum of PFAS	----	0.01	µg/L	0.22	0.24	8.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.09	11.8	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.19	0.21	10.0	0% - 20%
ET2202285-020	0874_MW237_220414	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4312327)									



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 4312327) - continued									
ET2202285-029	0874_MW300_220414	EP231X: Sum of PFAS	----	0.01	µg/L	0.90	0.92	2.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.43	0.42	2.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.85	0.86	1.2	0% - 20%
ET2202285-040	0874_MW046_220420	EP231X: Sum of PFAS	----	0.01	µg/L	299	304	1.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	230	235	2.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	282	287	1.6	0% - 20%
EP231P: PFAS Sums (QC Lot: 4312337)									
ET2202285-082	0874_MW109_220421	EP231X: Sum of PFAS	----	0.01	µg/L	903	908	0.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	664	658	0.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	855	854	0.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 4312338)									
ET2202285-047	0874_MW260_220420	EP231X: Sum of PFAS	----	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.02	0.0	No Limit
ET2202285-062	0874_MW203_220421	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4312339)									
ET2202285-065	0874_MW262_220421	EP231X: Sum of PFAS	----	0.01	µg/L	0.20	0.23	14.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	0.12	18.2	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.20	0.21	4.9	0% - 20%
ET2202285-081	0874_MW110_220421	EP231X: Sum of PFAS	----	0.01	µg/L	302	289	4.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	240	230	4.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	283	271	4.2	0% - 20%
EP231P: PFAS Sums (QC Lot: 4312340)									
ET2202285-099	0874_MW126_220422	EP231X: Sum of PFAS	----	0.01	µg/L	26.4	24.4	8.0	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	19.0	16.7	13.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	25.6	23.5	8.6	0% - 20%
EP231P: PFAS Sums (QC Lot: 4318078)									
ET2202285-043	0874_MW081_220420	EP231X-INJ: Sum of PFAS	----	0.01	µg/L	3810	3890	2.0	0% - 20%
		EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2870	2930	2.1	0% - 20%

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 Work Order : ET2202285
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Sub-Matrix: **WATER**

				<i>Laboratory Duplicate (DUP) Report</i>					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Original Result</i>	<i>Duplicate Result</i>	<i>RPD (%)</i>	<i>Acceptable RPD (%)</i>
EP231P: PFAS Sums (QC Lot: 4318078) - continued									
ET2202285-043	0874_MW081_220420	EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	3520	3590	2.0	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4309342)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	90.0	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	76.5	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	77.5	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	76.5	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	83.6	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	72.9	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4309342)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	73.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	78.0	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	74.4	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.8	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.4	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.2	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	70.8	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.0	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.4	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	81.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4309342)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.0	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	86.0	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	79.8	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	88.0	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	78.0	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	77.6	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4309342)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	73.5	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	86.4	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	72.1	65.0	137



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4309342) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	69.6	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312305)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	87.9	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	95.0	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	83.6	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	96.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	106	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312327)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	123	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	114	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	104	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	120	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	135	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312337)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	129	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	127	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	125	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	136	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	126	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312338)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.4436 µg/L	84.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.4704 µg/L	86.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.4746 µg/L	74.5	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.476 µg/L	83.0	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.464 µg/L	68.2	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	132	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312339)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	127	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	127	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	127	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	127	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	126	65.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312339) - continued									
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	126	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312340)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	116	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	120	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	114	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.3	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	104	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	96.5	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4318078)									
EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.444 µg/L	88.7	72.0	130	
EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.47 µg/L	79.6	71.0	127	
EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.475 µg/L	82.9	68.0	131	
EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.477 µg/L	83.0	69.0	134	
EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.4646 µg/L	81.6	65.0	140	
EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.5 µg/L	78.6	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312305)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	89.9	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.4	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	92.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	94.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	92.0	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	116	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312327)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	124	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	128	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.0	65.0	144	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312327) - continued								
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	125	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312337)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	126	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	128	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	130	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	129	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	# 146	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	128	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	128	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	126	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	130	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312338)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	2.5 µg/L	74.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.5 µg/L	78.1	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.5 µg/L	76.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.5 µg/L	72.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.5 µg/L	75.5	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.5 µg/L	80.7	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.5 µg/L	72.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	97.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.5 µg/L	66.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	126	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312339)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	125	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	118	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	127	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	125	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	122	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	119	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	72.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	82.1	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312340)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312340) - continued									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	109	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	104	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	120	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4318078)									
EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.10	2.5 µg/L	81.8	73.0	129	
EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.5 µg/L	79.8	72.0	129	
EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.5 µg/L	75.0	72.0	129	
EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.5 µg/L	81.4	72.0	130	
EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.5 µg/L	88.6	71.0	133	
EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.5 µg/L	82.4	69.0	130	
EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.5 µg/L	77.4	71.0	129	
EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.5 µg/L	75.4	69.0	133	
EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.5 µg/L	77.2	72.0	134	
EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.5 µg/L	75.2	65.0	144	
EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	1.25 µg/L	86.6	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312305)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	88.7	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.8	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	97.2	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312327)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	128	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312327) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	97.4	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	107	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	134	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312337)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	131	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	137	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	132	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	126	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	122	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	122	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	130	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312338)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.5 µg/L	70.9	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	119	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	123	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	125	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	133	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.5 µg/L	96.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312339)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	128	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	99.4	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	120	68.3	134



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312339) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	128	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	120	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	123	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312340)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	110	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	102	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.0	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	93.1	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	98.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4318078)								
EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.5 µg/L	85.4	67.0	137
EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	1.25 µg/L	91.0	68.0	141
EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	1.25 µg/L	83.8	62.1	136
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	1.25 µg/L	77.8	65.2	135
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	1.25 µg/L	88.7	63.2	135
EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.5 µg/L	78.4	65.0	136
EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.5 µg/L	76.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312305)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	91.3	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	100	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	90.4	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	80.5	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312327)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	120	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	111	64.0	140



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312327) - continued									
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	116	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	126	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312337)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	135	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	139	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	130	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	128	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312338)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.4686 µg/L	68.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.4758 µg/L	69.4	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.48 µg/L	71.6	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	92.5	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312339)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	130	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	139	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	122	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	80.3	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312340)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	121	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	90.0	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	118	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	119	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4318078)									
EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.469 µg/L	76.8	63.0	143	
EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.476 µg/L	81.7	64.0	140	
EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.48 µg/L	78.3	67.0	138	
EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.483 µg/L	81.2	62.2	139	
EP231P: PFAS Sums (QCLot: 4312305)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 4312327)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 4312337)									



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4312337) - continued								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4312338)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4312339)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4312340)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4318078)								
EP231X-INJ: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X-INJ: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X-INJ: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
				MS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4309342)							
EB2211593-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	99.1	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	90.2	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	95.8	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	88.2	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	93.5	68.0	136



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4309342) - continued							
EB2211593-001	Anonymous	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	80.8	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4309342)							
EB2211593-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	84.1	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	81.6	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	82.0	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	84.0	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	93.6	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	83.2	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	78.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	80.8	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	88.8	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	88.8	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	90.7	69.0	133		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4309342)							
EB2211593-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	82.8	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	79.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	82.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	100.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	76.4	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	96.0	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4309342)							
EB2211593-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	81.2	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	117	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	76.2	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	77.5	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312305)							
ET2202285-015	0874_MW220_220414	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	123	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	110	68.0	131



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312305) - continued							
ET2202285-015	0874_MW220_220414	EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	120	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	106	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	110	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312327)							
ET2202285-030	0874_MW467_220414	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	126	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	121	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	126	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	126	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	128	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	112	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312338)							
ET2202285-052	0874_MW221_220420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.4436 µg/L	78.2	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.47 µg/L	86.1	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.4704 µg/L	96.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.476 µg/L	77.3	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.464 µg/L	85.0	65.0	140
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4312339)							
ET2202285-071	0874_MW264_220421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	124	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	99.5	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	81.6	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	120	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	124	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	132	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4318078)							
ET2202285-078	0874_MW021_220421	EP231X-INJ: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.443 µg/L	130	70.0	130
		EP231X-INJ: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.47 µg/L	111	70.0	130
		EP231X-INJ: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.475 µg/L	# Not Determined	70.0	130
		EP231X-INJ: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.477 µg/L	122	70.0	130
		EP231X-INJ: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.5 µg/L	# Not Determined	70.0	130
		EP231X-INJ: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.482 µg/L	93.6	70.0	130
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312305)					
ET2202285-015	0874_MW220_220414	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	112	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	111	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	123	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312305) - continued							
ET2202285-015	0874_MW220_220414	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	115	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	111	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	91.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	84.6	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	121	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312327)							
ET2202285-030	0874_MW467_220414	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	129	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	128	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	122	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	106	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	126	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	110	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	116	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	118	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	108	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	104	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	113	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312338)							
ET2202285-052	0874_MW221_220420	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.5 µg/L	97.3	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.5 µg/L	85.4	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.5 µg/L	75.6	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.5 µg/L	75.3	71.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	81.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	81.2	65.0	144
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4312339)					
ET2202285-071	0874_MW264_220421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	128	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	117	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	119	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	129	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	131	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	128	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	116	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	123	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	133	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	112	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	130	71.0	132



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4318078)							
ET2202285-078	0874_MW021_220421	EP231X-INJ: Perfluorobutanoic acid (PFBA)	375-22-4	2.5 µg/L	108	70.0	130
		EP231X-INJ: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.5 µg/L	118	70.0	130
		EP231X-INJ: Perfluorohexanoic acid (PFHxA)	307-24-4	0.5 µg/L	122	70.0	130
		EP231X-INJ: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.5 µg/L	107	70.0	130
		EP231X-INJ: Perfluorooctanoic acid (PFOA)	335-67-1	0.5 µg/L	118	70.0	130
		EP231X-INJ: Perfluorononanoic acid (PFNA)	375-95-1	0.5 µg/L	110	70.0	130
		EP231X-INJ: Perfluorodecanoic acid (PFDA)	335-76-2	0.5 µg/L	101	70.0	130
		EP231X-INJ: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.5 µg/L	98.8	70.0	130
		EP231X-INJ: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.5 µg/L	99.8	70.0	130
		EP231X-INJ: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.5 µg/L	104	70.0	130
EP231X-INJ: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	1.25 µg/L	106	70.0	130		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312305)							
ET2202285-015	0874_MW220_220414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	112	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	104	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	108	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	111	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	105	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	125	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	117	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312327)							
ET2202285-030	0874_MW467_220414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	97.2	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	120	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	105	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	119	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312338)							
ET2202285-052	0874_MW221_220420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	128	59.0	135



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312338) - continued							
ET2202285-052	0874_MW221_220420	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	99.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	114	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	122	70.0	130
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4312339)							
ET2202285-071	0874_MW264_220421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	131	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	108	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	115	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	129	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	118	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	124	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	118	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4318078)							
ET2202285-078	0874_MW021_220421	EP231X-INJ: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.5 µg/L	107	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	1.25 µg/L	115	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	1.25 µg/L	102	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	1.25 µg/L	110	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	1.25 µg/L	116	70.0	130
		EP231X-INJ: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.5 µg/L	98.2	70.0	130
		EP231X-INJ: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.5 µg/L	94.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312305)							
ET2202285-015	0874_MW220_220414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	102	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	122	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	105	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	86.9	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312327)							
ET2202285-030	0874_MW467_220414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	127	63.0	143



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312327) - continued							
ET2202285-030	0874_MW467_220414	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	122	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	130	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	77.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312338)							
ET2202285-052	0874_MW221_220420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	138	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.4756 µg/L	73.0	64.0	140
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4312339)							
ET2202285-071	0874_MW264_220421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	126	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	132	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	135	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	92.8	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4318078)							
ET2202285-078	0874_MW021_220421	EP231X-INJ: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.468 µg/L	100	70.0	130
		EP231X-INJ: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.475 µg/L	100	70.0	130
		EP231X-INJ: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.48 µg/L	95.8	70.0	130
		EP231X-INJ: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.483 µg/L	92.1	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2202285	Page	: 1 of 15
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 27-Apr-2022
Site	: QLD_0874	Issue Date	: 18-May-2022
Sampler	: [REDACTED]	No. of samples received	: 105
Order number	: 60612487_2.1	No. of samples analysed	: 105

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231B: Perfluoroalkyl Carboxylic Acids	QC-4312337-002	----	Perfluorononanoic acid (PFNA)	375-95-1	146 %	69.0-130%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202285--078	0874_MW021_220421	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2202285--078	0874_MW021_220421	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	4	99	4.04	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
HDPE Soil Jar (EA055) 0874_SD123_220421, 0874_SD121_220421	21-Apr-2022	----	----	----	28-Apr-2022	05-May-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE Soil Jar (EP231X) 0874_SD123_220421, 0874_SD121_220421	21-Apr-2022	29-Apr-2022	18-Oct-2022	✓	03-May-2022	08-Jun-2022	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD123_220421, 0874_SD121_220421	0874_SD019_220421,	21-Apr-2022	29-Apr-2022	18-Oct-2022	✓	03-May-2022	08-Jun-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD123_220421, 0874_SD121_220421	0874_SD019_220421,	21-Apr-2022	29-Apr-2022	18-Oct-2022	✓	03-May-2022	08-Jun-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD123_220421, 0874_SD121_220421	0874_SD019_220421,	21-Apr-2022	29-Apr-2022	18-Oct-2022	✓	03-May-2022	08-Jun-2022	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD123_220421, 0874_SD121_220421	0874_SD019_220421,	21-Apr-2022	29-Apr-2022	18-Oct-2022	✓	03-May-2022	08-Jun-2022	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
0874_MW203_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	11-May-2022	18-Oct-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW202_220421, 0874_MW262_220421, 0874_MW231_220421, 0874_MW236_220421, 0874_MW264_220421, 0874_QC110_220421, 0874_SW019_220421, 0874_SW123_220421, 0874_MW026_220421, 0874_MW034_220421, 0874_MW120_220421, 0874_MW063_220421,	0874_MW201_220421, 0874_MW257_220421, 0874_MW254_220421, 0874_MW238_220421, 0874_MW054_220421, 0874_MW110_220421, 0874_SW121_220421, 0874_MW247_220421, 0874_MW033_220421, 0874_QC308_220421, 0874_MW116_220421, 0874_MW038_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X-INJ) 0874_MW021_220421,	0874_MW248_220421	21-Apr-2022	12-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW013_220422		22-Apr-2022	10-May-2022	19-Oct-2022	✓	11-May-2022	19-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW126_220422, 0874_SW013_220422, 0874_MW470_220422,	0874_MW061_220422, 0874_MW232_220422, 0874_QC309_220422	22-Apr-2022	11-May-2022	19-Oct-2022	✓	12-May-2022	19-Oct-2022	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
0874_MW203_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	11-May-2022	18-Oct-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW202_220421, 0874_MW262_220421, 0874_MW231_220421, 0874_MW236_220421, 0874_MW264_220421, 0874_QC110_220421, 0874_SW019_220421, 0874_SW123_220421, 0874_MW026_220421, 0874_MW034_220421, 0874_MW120_220421, 0874_MW063_220421,	0874_MW201_220421, 0874_MW257_220421, 0874_MW254_220421, 0874_MW238_220421, 0874_MW054_220421, 0874_MW110_220421, 0874_SW121_220421, 0874_MW247_220421, 0874_MW033_220421, 0874_QC308_220421, 0874_MW116_220421, 0874_MW038_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X-INJ) 0874_MW021_220421,	0874_MW248_220421	21-Apr-2022	12-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW013_220422		22-Apr-2022	10-May-2022	19-Oct-2022	✓	11-May-2022	19-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW126_220422, 0874_SW013_220422, 0874_MW470_220422,	0874_MW061_220422, 0874_MW232_220422, 0874_QC309_220422	22-Apr-2022	11-May-2022	19-Oct-2022	✓	12-May-2022	19-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides - Continued								
0874_MW203_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	11-May-2022	18-Oct-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW202_220421, 0874_MW262_220421, 0874_MW231_220421, 0874_MW236_220421, 0874_MW264_220421, 0874_QC110_220421, 0874_SW019_220421, 0874_SW123_220421, 0874_MW026_220421, 0874_MW034_220421, 0874_MW120_220421, 0874_MW063_220421,	0874_MW201_220421, 0874_MW257_220421, 0874_MW254_220421, 0874_MW238_220421, 0874_MW054_220421, 0874_MW110_220421, 0874_SW121_220421, 0874_MW247_220421, 0874_MW033_220421, 0874_QC308_220421, 0874_MW116_220421, 0874_MW038_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X-INJ) 0874_MW021_220421,	0874_MW248_220421	21-Apr-2022	12-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW013_220422		22-Apr-2022	10-May-2022	19-Oct-2022	✓	11-May-2022	19-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW126_220422, 0874_SW013_220422, 0874_MW470_220422,	0874_MW061_220422, 0874_MW232_220422, 0874_QC309_220422	22-Apr-2022	11-May-2022	19-Oct-2022	✓	12-May-2022	19-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued								
0874_MW203_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	11-May-2022	18-Oct-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW202_220421, 0874_MW262_220421, 0874_MW231_220421, 0874_MW236_220421, 0874_MW264_220421, 0874_QC110_220421, 0874_SW019_220421, 0874_SW123_220421, 0874_MW026_220421, 0874_MW034_220421, 0874_MW120_220421, 0874_MW063_220421,	0874_MW201_220421, 0874_MW257_220421, 0874_MW254_220421, 0874_MW238_220421, 0874_MW054_220421, 0874_MW110_220421, 0874_SW121_220421, 0874_MW247_220421, 0874_MW033_220421, 0874_QC308_220421, 0874_MW116_220421, 0874_MW038_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X-INJ) 0874_MW021_220421,	0874_MW248_220421	21-Apr-2022	12-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW013_220422		22-Apr-2022	10-May-2022	19-Oct-2022	✓	11-May-2022	19-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW126_220422, 0874_SW013_220422, 0874_MW470_220422,	0874_MW061_220422, 0874_MW232_220422, 0874_QC309_220422	22-Apr-2022	11-May-2022	19-Oct-2022	✓	12-May-2022	19-Oct-2022	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums - Continued								
0874_MW203_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	11-May-2022	18-Oct-2022	✓	
HDPE (no PTFE) (EP231X) 0874_MW202_220421, 0874_MW262_220421, 0874_MW231_220421, 0874_MW236_220421, 0874_MW264_220421, 0874_QC110_220421, 0874_SW019_220421, 0874_SW123_220421, 0874_MW026_220421, 0874_MW034_220421, 0874_MW120_220421, 0874_MW063_220421,	0874_MW201_220421, 0874_MW257_220421, 0874_MW254_220421, 0874_MW238_220421, 0874_MW054_220421, 0874_MW110_220421, 0874_SW121_220421, 0874_MW247_220421, 0874_MW033_220421, 0874_QC308_220421, 0874_MW116_220421, 0874_MW038_220421	21-Apr-2022	11-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X-INJ) 0874_MW021_220421,	0874_MW248_220421	21-Apr-2022	12-May-2022	18-Oct-2022	✓	12-May-2022	18-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW013_220422		22-Apr-2022	10-May-2022	19-Oct-2022	✓	11-May-2022	19-Oct-2022	✓
HDPE (no PTFE) (EP231X) 0874_MW126_220422, 0874_SW013_220422, 0874_MW470_220422,	0874_MW061_220422, 0874_MW232_220422, 0874_QC309_220422	22-Apr-2022	11-May-2022	19-Oct-2022	✓	12-May-2022	19-Oct-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	9	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	10	99	10.10	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	3	33.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	99	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	99	6.06	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	99	4.04	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X-INJ	WATER	In house: Direct injection analysis of fresh waters after dilution (1:1) with mobile phase solvent. Analysis by LC-Electrospray-MS-MS, Negative Mode using MRM. Where commercially available, isotopically labelled analogues of the target analytes are used as internal standards for quantification. Where a labelled analogue is not commercially available, the internal standard with similar chemistry and the closest retention time to the target is used for quantification. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Preparation for PFAS in water.	EP231-PR	WATER	Method presumes direct injection without workup. Preparation includes addition of internal standard and surrogate, and filtration prior to analysis.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2202285

Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 36480
Site : QLD_0874
Sampler : [Redacted]

Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
E-mail : [Redacted]
Telephone : [Redacted]
Facsimile : [Redacted]
Page : 1 of 5
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 27-Apr-2022 08:50
Issue Date : 28-Apr-2022
Client Requested Due Date : 11-May-2022
Scheduled Reporting Date : 12-May-2022

Delivery Details

Mode of Delivery : Carrier
Security Seal : Intact.
No. of coolers/boxes : 2
Temperature : 2.2°C, 3.7°C - Ice present
Receipt Detail : MEDIUM ESKY
No. of samples received / analysed : 105 / 105

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
The laboratory acknowledges your requested reporting date of 10 day TAT, however due to the analytical request and associated procedures involved the requested due date will not be possible. Please note the best practical due date has been assigned.
28/04/2022: SRN has been resent to acknowledge change of sampling date for -038 and addition of [Redacted] to deliverables. For any further information regarding these adjustments please contact client services at [Redacted]
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2202285-083	21-Apr-2022 13:00	0874_SD123_220421	✓	✓
ET2202285-084	21-Apr-2022 12:45	0874_SD019_220421	✓	✓
ET2202285-085	21-Apr-2022 12:00	0874_SD121_220421	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2202285-001	14-Apr-2022 11:00	0874_MW204_220414	✓
ET2202285-002	14-Apr-2022 11:40	0874_MW205_220414	✓
ET2202285-003	14-Apr-2022 12:03	0874_MW206_220414	✓
ET2202285-004	14-Apr-2022 11:30	0874_MW207_220414	✓
ET2202285-005	14-Apr-2022 13:15	0874_MW208_220414	✓
ET2202285-006	19-Apr-2022 11:20	0874_MW211_220419	✓
ET2202285-007	14-Apr-2022 16:00	0874_MW212_220414	✓
ET2202285-008	14-Apr-2022 15:45	0874_MW213_220414	✓
ET2202285-009	14-Apr-2022 15:20	0874_MW214_220414	✓
ET2202285-010	14-Apr-2022 14:45	0874_MW215_220414	✓
ET2202285-011	14-Apr-2022 14:20	0874_MW216_220414	✓
ET2202285-012	14-Apr-2022 12:10	0874_MW217_220414	✓
ET2202285-013	14-Apr-2022 12:00	0874_MW218_220414	✓
ET2202285-014	14-Apr-2022 11:30	0874_MW219_220414	✓
ET2202285-015	14-Apr-2022 11:50	0874_MW220_220414	✓
ET2202285-016	14-Apr-2022 10:45	0874_MW225_220414	✓
ET2202285-017	14-Apr-2022 13:50	0874_MW233_220414	✓
ET2202285-018	14-Apr-2022 09:25	0874_MW234_220414	✓
ET2202285-019	14-Apr-2022 09:35	0874_MW235_220414	✓
ET2202285-020	14-Apr-2022 10:15	0874_MW237_220414	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

ET2202285-021	14-Apr-2022 10:10	0874_MW239_220414	✓
ET2202285-022	14-Apr-2022 09:36	0874_MW240_220414	✓
ET2202285-023	14-Apr-2022 14:15	0874_MW252_220414	✓
ET2202285-024	14-Apr-2022 09:55	0874_MW255_220414	✓
ET2202285-025	14-Apr-2022 13:20	0874_MW261_220414	✓
ET2202285-026	14-Apr-2022 11:20	0874_MW266_220414	✓
ET2202285-027	14-Apr-2022 11:00	0874_MW267_220414	✓
ET2202285-028	14-Apr-2022 14:00	0874_MW269_220414	✓
ET2202285-029	14-Apr-2022 09:00	0874_MW300_220414	✓
ET2202285-030	14-Apr-2022 15:21	0874_MW467_220414	✓
ET2202285-031	19-Apr-2022 12:00	0874_MW471_220419	✓
ET2202285-032	14-Apr-2022 14:41	0874_MW301_220414	✓
ET2202285-033	14-Apr-2022 12:00	0874_QC115_220414	✓
ET2202285-034	14-Apr-2022 12:00	0874_QC116_220414	✓
ET2202285-035	14-Apr-2022 12:00	0874_QC117_220414	✓
ET2202285-036	19-Apr-2022 12:00	0874_QC118_220419	✓
ET2202285-037	14-Apr-2022 16:30	0874_QC305_220414	✓
ET2202285-038	19-Apr-2022 16:30	0874_QC306_220419	✓
ET2202285-039	14-Apr-2022 07:00	0874_QC501_220414	✓
ET2202285-040	20-Apr-2022 11:45	0874_MW046_220420	✓
ET2202285-041	20-Apr-2022 14:29	0874_MW090_220420	✓
ET2202285-042	20-Apr-2022 14:37	0874_MW005_220420	✓
ET2202285-043	20-Apr-2022 14:49	0874_MW081_220420	✓
ET2202285-044	20-Apr-2022 14:58	0874_MW125_220420	✓
ET2202285-045	20-Apr-2022 16:14	0874_MW222_220420	✓
ET2202285-046	20-Apr-2022 13:45	0874_MW258_220420	✓
ET2202285-047	20-Apr-2022 17:16	0874_MW260_220420	✓
ET2202285-048	20-Apr-2022 15:00	0874_MW268_220420	✓
ET2202285-049	20-Apr-2022 14:20	0874_MW259_220420	✓
ET2202285-050	20-Apr-2022 12:30	0874_MW263_220420	✓
ET2202285-051	20-Apr-2022 12:00	0874_MW270_220420	✓
ET2202285-052	20-Apr-2022 17:13	0874_MW221_220420	✓
ET2202285-053	20-Apr-2022 11:15	0874_MW256_220420	✓
ET2202285-054	20-Apr-2022 12:00	0874_QC119_220420	✓
ET2202285-055	20-Apr-2022 15:00	0874_QC307_220420	✓
ET2202285-056	20-Apr-2022 10:47	0874_MW251_220420	✓
ET2202285-057	20-Apr-2022 10:23	0874_MW142_220420	✓
ET2202285-058	20-Apr-2022 11:03	0874_MW250_220420	✓
ET2202285-059	20-Apr-2022 09:17	0874_MW118_220420	✓
ET2202285-060	20-Apr-2022 09:48	0874_MW140_220420	✓
ET2202285-061	20-Apr-2022 08:40	0874_MW129_220420	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

ET2202285-062	21-Apr-2022 08:55	0874_MW203_220421	✓
ET2202285-063	21-Apr-2022 09:10	0874_MW202_220421	✓
ET2202285-064	21-Apr-2022 09:22	0874_MW201_220421	✓
ET2202285-065	21-Apr-2022 10:52	0874_MW262_220421	✓
ET2202285-066	21-Apr-2022 11:24	0874_MW257_220421	✓
ET2202285-067	21-Apr-2022 11:00	0874_MW231_220421	✓
ET2202285-068	21-Apr-2022 09:15	0874_MW254_220421	✓
ET2202285-069	21-Apr-2022 08:45	0874_MW236_220421	✓
ET2202285-070	21-Apr-2022 11:45	0874_MW238_220421	✓
ET2202285-071	21-Apr-2022 08:00	0874_MW264_220421	✓
ET2202285-072	21-Apr-2022 12:07	0874_MW055_220421	✓
ET2202285-073	21-Apr-2022 12:27	0874_MW054_220421	✓
ET2202285-074	21-Apr-2022 12:27	0874_QC110_220421	✓
ET2202285-075	21-Apr-2022 12:49	0874_MW015_220421	✓
ET2202285-076	21-Apr-2022 13:03	0874_MW016_220421	✓
ET2202285-077	21-Apr-2022 13:03	0874_QC120_220421	✓
ET2202285-078	21-Apr-2022 13:11	0874_MW021_220421	✓
ET2202285-079	21-Apr-2022 13:31	0874_MW139_220421	✓
ET2202285-080	21-Apr-2022 13:39	0874_MW138_220421	✓
ET2202285-081	21-Apr-2022 13:51	0874_MW110_220421	✓
ET2202285-082	21-Apr-2022 14:06	0874_MW109_220421	✓
ET2202285-086	21-Apr-2022 12:45	0874_SW019_220421	✓
ET2202285-087	21-Apr-2022 12:00	0874_SW121_220421	✓
ET2202285-088	21-Apr-2022 13:00	0874_SW123_220421	✓
ET2202285-089	21-Apr-2022 12:40	0874_MW247_220421	✓
ET2202285-090	21-Apr-2022 12:30	0874_MW248_220421	✓
ET2202285-091	21-Apr-2022 15:45	0874_MW026_220421	✓
ET2202285-092	21-Apr-2022 15:30	0874_MW033_220421	✓
ET2202285-093	21-Apr-2022 15:30	0874_MW034_220421	✓
ET2202285-094	21-Apr-2022 16:30	0874_QC308_220421	✓
ET2202285-095	21-Apr-2022 16:00	0874_MW120_220421	✓
ET2202285-096	21-Apr-2022 15:10	0874_MW116_220421	✓
ET2202285-097	21-Apr-2022 15:00	0874_MW063_220421	✓
ET2202285-098	21-Apr-2022 14:30	0874_MW038_220421	✓
ET2202285-099	22-Apr-2022 09:41	0874_MW126_220422	✓
ET2202285-100	22-Apr-2022 09:50	0874_MW013_220422	✓
ET2202285-101	22-Apr-2022 10:12	0874_MW061_220422	✓
ET2202285-102	22-Apr-2022 10:41	0874_SW013_220422	✓
ET2202285-103	22-Apr-2022 11:26	0874_MW232_220422	✓
ET2202285-104	22-Apr-2022 12:11	0874_MW470_220422	✓
ET2202285-105	22-Apr-2022 12:14	0874_QC309_220422	✓

CERTIFICATE OF ANALYSIS

Work Order : **ET2202514**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address :
 BRISBANE
Telephone : ----
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 37135
Sampler : [REDACTED]
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 14
No. of samples analysed : 14

Page : 1 of 11
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 10-May-2022 08:40
Date Analysis Commenced : 12-May-2022
Issue Date : 19-May-2022 13:08



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	LCMS Coordinator	Sydney Inorganics, Smithfield, NSW
[REDACTED]	LCMS Coordinator	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- All analysis conducted by ALS Sydney, NATA accreditation no. 825, site no 10911.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_220505	0874_SD205_220505	0874_SD206_220505	0874_SD207_220505	0874_SD203_220505
Sampling date / time				05-May-2022 07:19	05-May-2022 08:00	05-May-2022 08:26	05-May-2022 08:47	05-May-2022 09:13	
Compound	CAS Number	LOR	Unit	ET2202514-002	ET2202514-004	ET2202514-006	ET2202514-008	ET2202514-010	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	33.8	30.1	32.3	44.6	34.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0003	0.0003	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0020	0.0014	0.0056	0.0026	0.0019	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	0874_SD202_220505	0874_SD205_220505	0874_SD206_220505	0874_SD207_220505	0874_SD203_220505
Sampling date / time				05-May-2022 07:19	05-May-2022 08:00	05-May-2022 08:26	05-May-2022 08:47	05-May-2022 09:13	
Compound	CAS Number	LOR	Unit	ET2202514-002	ET2202514-004	ET2202514-006	ET2202514-008	ET2202514-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0020	0.0014	0.0063	0.0029	0.0019	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0020	0.0014	0.0059	0.0029	0.0019	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0020	0.0014	0.0063	0.0029	0.0019	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	70.5	95.0	105	91.0	94.0	
13C8-PFOA	----	0.0002	%	86.0	98.5	104	111	102	



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		0874_SD204_220505	----	----	----	----
		Sampling date / time		05-May-2022 09:32	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2202514-012	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	53.1	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0036	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Sample ID	0874_SD204_220505	----	----	----	----
Sampling date / time			05-May-2022 09:32	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2202514-012	-----	-----	-----	-----
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	0.0036	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0036	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0036	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	93.5	----	----	----	----
13C8-PFOA	----	0.0002	%	112	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW202_220505	0874_SW205_220505	0874_SW206_220505	0874_SW207_220505	0874_SW203_220505
				Sampling date / time	05-May-2022 07:18	05-May-2022 07:59	05-May-2022 08:25	05-May-2022 08:47	05-May-2022 09:12
Compound	CAS Number	LOR	Unit	ET2202514-001	ET2202514-003	ET2202514-005	ET2202514-007	ET2202514-009	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.04	0.07	0.04	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.04	0.04	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.19	0.44	0.32	0.20	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.35	0.84	0.55	0.68	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.05	0.13	0.10	0.05	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	0.02	0.02	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW202_220505	0874_SW205_220505	0874_SW206_220505	0874_SW207_220505	0874_SW203_220505
Sampling date / time				05-May-2022 07:18	05-May-2022 07:59	05-May-2022 08:25	05-May-2022 08:47	05-May-2022 09:12	
Compound	CAS Number	LOR	Unit	ET2202514-001	ET2202514-003	ET2202514-005	ET2202514-007	ET2202514-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	0.65	1.60	1.07	0.97	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.54	1.28	0.87	0.88	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	0.65	1.53	1.03	0.97	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	93.6	98.3	103	98.4	
13C8-PFOA	----	0.02	%	94.5	93.9	95.3	101	98.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW204_220505	0874_QC350_220505	0874_QC550_220505	----	----
Sampling date / time				05-May-2022 09:31	05-May-2022 09:32	05-May-2022 10:32	----	----	
Compound	CAS Number	LOR	Unit	ET2202514-011	ET2202514-013	ET2202514-014	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.15	<0.01	<0.01	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.24	<0.01	<0.01	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW204_220505	0874_QC350_220505	0874_QC550_220505	----	----
Sampling date / time				05-May-2022 09:31	05-May-2022 09:32	05-May-2022 10:32	----	----	
Compound	CAS Number	LOR	Unit	ET2202514-011	ET2202514-013	ET2202514-014	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.45	<0.01	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.39	<0.01	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.45	<0.01	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	92.0	100	104	----	----	
13C8-PFOA	----	0.02	%	93.7	93.1	95.7	----	----	



Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4341865)									
ES2216512-003	Anonymous	EA055: Moisture Content	----	0.1	%	13.1	12.4	5.4	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4341578)									
EB2212826-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP2205515-010	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0024	0.0025	4.1	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0020	0.0021	0.0	0% - 50%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0105	0.0107	2.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0011	0.0012	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0351	0.0370	5.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4341578)									
EB2212826-007	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4341578) - continued									
EB2212826-007	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP2205515-010	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0010	0.0010	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0054	0.0057	4.8	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0005	0.0005	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0010	0.0010	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4341578)									
EB2212826-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP2205515-010	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4341578)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4341578) - continued									
EB2212826-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP2205515-010	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	0.0010	0.0011	15.8	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4333739)									
EP2205574-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2202514-001	0874_SW202_220505	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.03	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.04	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4333739)									
EP2205574-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4333739) - continued									
EP2205574-001	Anonymous	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2202514-001	0874_SW202_220505	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4333739)									
EP2205574-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202514-001	0874_SW202_220505	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit

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 Work Order : ET2202514
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4333739)									
EP2205574-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2202514-001	0874_SW202_220505	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4333739)									
EP2205574-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.11	0.10	9.5	0% - 50%
ET2202514-001	0874_SW202_220505	EP231X: Sum of PFAS	----	0.01	µg/L	0.05	0.07	33.3	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4341578)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4341578)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	90.0	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	117	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	106	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.7	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4341578)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	71.6	129
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	69.8	131
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	68.7	130
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	105	65.1	134
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4341578)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	118	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	116	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	115	65.0	137



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4341578) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	119	69.2	143

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4333739)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	86.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	104	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	109	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4333739)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	125	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	117	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	118	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	126	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	112	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4333739)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	121	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	107	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.6	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	106	66.0	145
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	97.3	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	114	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4333739)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	108	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	117	64.0	140



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4333739) - continued									
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	106	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	93.2	71.4	144	

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4341578)							
EB2212826-007	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	105	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	104	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	108	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	109	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	96.4	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	114	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4341578)							
EB2212826-007	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	90.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	109	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	113	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	114	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	120	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	122	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	109	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	87.6	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	107	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	107	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	97.3	69.0	133
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4341578)					
EB2212826-007	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	120	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	110	71.6	129
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	104	69.8	131
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	98.4	68.7	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	107	65.1	134



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4341578) - continued							
EB2212826-007	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	115	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	116	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4341578)							
EB2212826-007	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	113	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	109	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	114	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	107	69.2	143

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4333739)							
EP2205574-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	114	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	97.4	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	124	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	102	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	94.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	112	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4333739)							
EP2205574-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	95.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	128	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	124	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	117	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	113	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	120	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	119	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	133	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	117	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	115	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4333739)							
EP2205574-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	121	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	102	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	91.3	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	102	66.0	145



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4333739) - continued							
EP2205574-001	Anonymous	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	97.5	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	109	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4333739)							
EP2205574-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	95.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	120	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	84.6	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2202514	Page	: 1 of 5
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 10-May-2022
Site	: QLD_0874	Issue Date	: 19-May-2022
Sampler	: [REDACTED]	No. of samples received	: 14
Order number	: 60612487_2.1	No. of samples analysed	: 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	1	12	8.33	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	----	----	----	17-May-2022	19-May-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	17-May-2022	01-Nov-2022	✓	18-May-2022	26-Jun-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	17-May-2022	01-Nov-2022	✓	18-May-2022	26-Jun-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	17-May-2022	01-Nov-2022	✓	18-May-2022	26-Jun-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	17-May-2022	01-Nov-2022	✓	18-May-2022	26-Jun-2022	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD202_220505, 0874_SD206_220505, 0874_SD203_220505,	0874_SD205_220505, 0874_SD207_220505, 0874_SD204_220505	05-May-2022	17-May-2022	01-Nov-2022	✓	18-May-2022	26-Jun-2022	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW202_220505, 0874_SW206_220505, 0874_SW203_220505, 0874_QC350_220505,	0874_SW205_220505, 0874_SW207_220505, 0874_SW204_220505, 0874_QC550_220505	05-May-2022	13-May-2022	01-Nov-2022	✓	16-May-2022	01-Nov-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW202_220505, 0874_SW206_220505, 0874_SW203_220505, 0874_QC350_220505,	0874_SW205_220505, 0874_SW207_220505, 0874_SW204_220505, 0874_QC550_220505	05-May-2022	13-May-2022	01-Nov-2022	✓	16-May-2022	01-Nov-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW202_220505, 0874_SW206_220505, 0874_SW203_220505, 0874_QC350_220505,	0874_SW205_220505, 0874_SW207_220505, 0874_SW204_220505, 0874_QC550_220505	05-May-2022	13-May-2022	01-Nov-2022	✓	16-May-2022	01-Nov-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW202_220505, 0874_SW206_220505, 0874_SW203_220505, 0874_QC350_220505,	0874_SW205_220505, 0874_SW207_220505, 0874_SW204_220505, 0874_QC550_220505	05-May-2022	13-May-2022	01-Nov-2022	✓	16-May-2022	01-Nov-2022	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW202_220505, 0874_SW206_220505, 0874_SW203_220505, 0874_QC350_220505,	0874_SW205_220505, 0874_SW207_220505, 0874_SW204_220505, 0874_QC550_220505	05-May-2022	13-May-2022	01-Nov-2022	✓	16-May-2022	01-Nov-2022	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	12	8.33	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	14	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	14	7.14	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2202514

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
BRISBANE
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 37135
Site : QLD_0874
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 10-May-2022 08:40
Client Requested Due Date : 18-May-2022
Issue Date : 10-May-2022
Scheduled Reporting Date : 18-May-2022

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 2
Receipt Detail : MEDIUM
Security Seal : Intact.
Temperature : 4.7, 5.3°C - Ice present
No. of samples received / analysed : 14 / 14

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- All analysis conducted by ALS Sydney, NATA accreditation no. 825, site no 10911.
- ***Samples were originally received by ALS Townsville (9.9, 6.0°C) forwarded to ALS Brisbane for analysis.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2202514-002	05-May-2022 07:19	0874_SD202_220505	✓	✓
ET2202514-004	05-May-2022 08:00	0874_SD205_220505	✓	✓
ET2202514-006	05-May-2022 08:26	0874_SD206_220505	✓	✓
ET2202514-008	05-May-2022 08:47	0874_SD207_220505	✓	✓
ET2202514-010	05-May-2022 09:13	0874_SD203_220505	✓	✓
ET2202514-012	05-May-2022 09:32	0874_SD204_220505	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2202514-001	05-May-2022 07:18	0874_SW202_220505	✓
ET2202514-003	05-May-2022 07:59	0874_SW205_220505	✓
ET2202514-005	05-May-2022 08:25	0874_SW206_220505	✓
ET2202514-007	05-May-2022 08:47	0874_SW207_220505	✓
ET2202514-009	05-May-2022 09:12	0874_SW203_220505	✓
ET2202514-011	05-May-2022 09:31	0874_SW204_220505	✓
ET2202514-013	05-May-2022 09:32	0874_QC350_220505	✓
ET2202514-014	05-May-2022 10:32	0874_QC550_220505	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/220428/1

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
		ug/L	ug/L	Sample ug/L	Duplicate ug/L	RPD %	LCS %	Matrix Spike %
				N22/007833				
PFBA (375-22-4)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	99	NA
PFPeA (2706-90-3)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	85	NA
PFHxA (307-24-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	93	NA
PFHpA (375-85-9)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	106	NA
PFOA (335-67-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	119	NA
PFNA (375-95-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	112	NA
PFDA (335-76-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	98	NA
PFdA (2058-94-8)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	102	NA
PFdA (307-55-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	50	NA
PFTDA (72629-94-8)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	76	NA
PFTeDA (376-06-7)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	92	NA
PFHxDA (67905-19-5)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	133	NA
PFODA (16517-11-6)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	138	NA
FOUEA (70887-84-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	103	NA
PFBS (375-73-5)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	99	NA
PFPeS (2706-91-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	100	NA
PFHxS (355-46-4)	NR70	0.01	< 0.01	0.012	0.015	22	99	NA
PFHpS (375-92-8)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	98	NA
PFOS (1763-23-1)	NR70	0.02	< 0.02	< 0.02	0.021	-	98	NA
PFNS (68259-12-1)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	100	NA
PFDS (335-77-3)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	98	NA
PFOSA (754-91-6)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	100	NA
N-MeFOSA (31506-32-8)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	97	NA
N-Et FOSA (4151-50-2)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	105	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	97	NA
N-Et FOSAA (2991-50-6)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	102	NA
N-MeFOSE (24448-09-7)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	93	NA
N-Et FOSE (1691-99-2)	NR70	0.05	< 0.05	< 0.05	< 0.05	-	56	NA
4:2 FTS (757124-72-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	100	NA
6:2 FTS (27619-97-2)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	93	NA
8:2 FTS (39108-34-4)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	114	NA
10:2 FTS (120226-60-0)	NR70	0.01	< 0.01	< 0.01	< 0.01	-	85	NA
8:2 diPAP (678-41-1)	NR70	0.02	< 0.02	< 0.02	< 0.02	-	84	NA

Results expressed in percentage (%) or ug/L wherever appropriate.

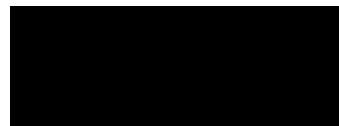
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
5/05/2022

Date:



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AEC006/220428/1

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries		
				Sample	Duplicate	RPD	LCS	Matrix Spike	
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	
				N22/007834					
PFBA (375-22-4)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	99	NA	
PFPeA (2706-90-3)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	96	NA	
PFHxA (307-24-4)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	91	NA	
PFHpA (375-85-9)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	97	NA	
PFOA (335-67-1)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	106	NA	
PFNA (375-95-1)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	124	NA	
PFDA (335-76-2)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	109	NA	
PFUdA (2058-94-8)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	76	NA	
PFDoA (307-55-1)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	136	NA	
PFTrDA (72629-94-8)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	140	NA	
PFTeDA (376-06-7)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	108	NA	
PFHxDA (67905-19-5)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	123	NA	
PFODA (16517-11-6)	NR70	0.005	< 0.005	< 0.005	< 0.005	-	82	NA	
FOUEA (70887-84-2)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	85	NA	
PFBS(375-73-5)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	104	NA	
PFPeS(2706-91-4)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	113	NA	
PFHXS(355-46-4)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	97	NA	
PFHpS(375-92-8)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	100	NA	
PFOS(1763-23-1)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	95	NA	
PFNS(68259-12-1)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	96	NA	
PFDS(335-77-3)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	92	NA	
PFOSA (754-91-6)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	101	NA	
N-MeFOSA (31506-32-8)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	100	NA	
N-Et FOSA (4151-50-2)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	105	NA	
N-MeFOSAA (2355-31-9)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	100	NA	
N-Et FOSAA(2991-50-6)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	105	NA	
N-MeFOSE (24448-09-7)	NR70	0.005	< 0.005	< 0.005	< 0.005	-	106	NA	
N-Et FOSE (1691-99-2)	NR70	0.005	< 0.005	< 0.005	< 0.005	-	66	NA	
4:2 FTS (757124-72-4)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	101	NA	
6:2 FTS (27619-97-2)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	107	NA	
8:2 FTS (39108-34-4)	NR70	0.001	< 0.001	< 0.001	< 0.001	-	102	NA	
10:2 FTS (120226-60-0)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	93	NA	
8:2 diPAP (678-41-1)	NR70	0.002	< 0.002	< 0.002	< 0.002	-	79	NA	

Results expressed in percentage (%) or mg/kg wherever appropriate.

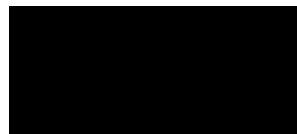
Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



Organics Manager, NMI-North Ryde
5/05/2022

Date:



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/220428/1
	Quote No. : QT-02018
	Order No. : 60612487_2_1
	Date Received : 28-APR-2022
Attention :	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager :	Phone :

Lab Reg No.	Sample Ref	Sample Description
N22/007834	0874_QC201_220411	SOIL 11.04.2022
N22/007836	0874_QC203_220412	SOIL 12.04.2022
N22/007838	0874_QC205_220412	SOIL 12.04.2022
N22/007840	0874_QC207_220413	SOIL 13.04.2022

Lab Reg No.		N22/007834	N22/007836	N22/007838	N22/007840	
Date Sampled		11-APR-2022	12-APR-2022	12-APR-2022	13-APR-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFPeA (2706-90-3)	mg/kg	<0.002	0.0037	<0.002	<0.002	NR70
PFHxA (307-24-4)	mg/kg	<0.001	0.0045	<0.001	<0.001	NR70
PFHpA (375-85-9)	mg/kg	<0.001	0.0017	<0.001	<0.001	NR70
PFOA (335-67-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFNA (375-95-1)	mg/kg	<0.001	0.0012	<0.001	<0.001	NR70
PFDA (335-76-2)	mg/kg	<0.001	<0.001	<0.001	0.0011	NR70
PFUdA (2058-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFDoA (307-55-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTeDA (376-06-7)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	0.0030	<0.002	<0.002	NR70
PFODA (16517-11-6)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
FOUEA (70887-84-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFBS (375-73-5)	mg/kg	<0.001	0.0011	<0.001	<0.001	NR70
PFPeS (2706-91-4)	mg/kg	<0.001	0.0017	<0.001	<0.001	NR70
PFHxS (355-46-4)	mg/kg	<0.001	0.023	<0.001	0.0014	NR70
PFHpS (375-92-8)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOS (1763-23-1)	mg/kg	<0.002	0.075	0.0058	0.038	NR70
PFNS (68259-12-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFDS (335-77-3)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFOSA (754-91-6)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70

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Lab Reg No.		N22/007834	N22/007836	N22/007838	N22/007840	
Date Sampled		11-APR-2022	12-APR-2022	12-APR-2022	13-APR-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
8:2 FTS (39108-34-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFBA (Surrogate Recovery)	%	109	111	108	106	NR70
PFPeA (Surrogate Recovery)	%	106	121	103	105	NR70
PFHxA (Surrogate Recovery)	%	134	226	117	118	NR70
PFHpA (Surrogate Recovery)	%	110	154	115	112	NR70
PFOA (Surrogate Recovery)	%	101	113	104	107	NR70
PFNA (Surrogate Recovery)	%	91	91	69	61	NR70
PFDA (Surrogate Recovery)	%	80	65	83	97	NR70
PFUdA (Surrogate Recovery)	%	77	46	80	75	NR70
PFDoA (Surrogate Recovery)	%	132	57	50	70	NR70
PFTeDA (Surrogate Recovery)	%	116	76	50	64	NR70
PFHxDA (Surrogate Recovery)	%	147	12	45	58	NR70
FOUEA (Surrogate Recovery)	%	77	48	117	71	NR70
PFBS (Surrogate Recovery)	%	97	220	97	99	NR70
PFHxS (Surrogate Recovery)	%	108	223	102	107	NR70
PFOS (Surrogate Recovery)	%	106	114	110	111	NR70
PFOSA (Surrogate Recovery)	%	91	31	63	61	NR70
N-MeFOSA (Surrogate Recovery)	%	109	77	94	87	NR70
N-EtFOSA (Surrogate Recovery)	%	106	60	84	79	NR70
N-MeFOSAA (Surrogate Recovery)	%	88	22	60	69	NR70
N-EtFOSAA (Surrogate Recovery)	%	95	69	78	82	NR70
N-MeFOSE (Surrogate Recovery)	%	95	127	87	101	NR70
N-EtFOSE (Surrogate Recovery)	%	116	83	101	120	NR70
4:2 FTS (Surrogate Recovery)	%	93	258	83	130	NR70
6:2 FTS (Surrogate Recovery)	%	107	113	84	133	NR70
8:2 FTS (Surrogate Recovery)	%	86	87	57	106	NR70
8:2 diPAP (Surrogate Recovery)	%	105	38	58	68	NR70
Dates						
Date extracted		2-MAY-2022	2-MAY-2022	2-MAY-2022	2-MAY-2022	
Date analysed		3-MAY-2022	3-MAY-2022	3-MAY-2022	3-MAY-2022	

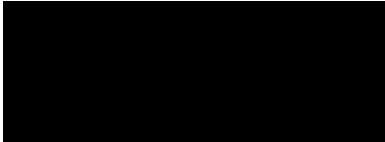
N22/007834
to
N22/007842

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

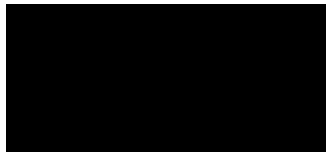
Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



Organics - NSW
Accreditation No. 198

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Lab Reg No.		N22/007834	N22/007836	N22/007838	N22/007840	
Date Sampled		11-APR-2022	12-APR-2022	12-APR-2022	13-APR-2022	
	Units					Method
Trace Elements						
Total Solids	%	74.7	53.3	63.5	42.4	NT2_49
Dates						
Date extracted		22-APR-2022	22-APR-2022	22-APR-2022	22-APR-2022	
Date analysed		4-MAY-2022	4-MAY-2022	4-MAY-2022	4-MAY-2022	



Inorganics - NSW
Accreditation No. 198

05-MAY-2022

REPORT OF ANALYSIS

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Report No. RN1350702

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/007842	0874_QC209_220413	SOIL 13.04.2022

Lab Reg No.	Date Sampled	Units	N22/007842	13-APR-2022	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	mg/kg	<0.002			NR70
PFPeA (2706-90-3)	mg/kg	<0.002			NR70
PFHxA (307-24-4)	mg/kg	0.0039			NR70
PFHpA (375-85-9)	mg/kg	<0.001			NR70
PFOA (335-67-1)	mg/kg	0.0013			NR70
PFNA (375-95-1)	mg/kg	<0.001			NR70
PFDA (335-76-2)	mg/kg	0.0017			NR70
PFUdA (2058-94-8)	mg/kg	<0.002			NR70
PFDoA (307-55-1)	mg/kg	<0.002			NR70
PFTrDA (72629-94-8)	mg/kg	<0.002			NR70
PFTeDA (376-06-7)	mg/kg	<0.002			NR70
PFHxDA (67905-19-5)	mg/kg	<0.002			NR70
PFODA (16517-11-6)	mg/kg	<0.005			NR70
FOUEA (70887-84-2)	mg/kg	<0.001			NR70
PFBS (375-73-5)	mg/kg	0.0033			NR70
PFPeS (2706-91-4)	mg/kg	0.0035			NR70
PFHxS (355-46-4)	mg/kg	0.032			NR70
PFHpS (375-92-8)	mg/kg	<0.001			NR70
PFOS (1763-23-1)	mg/kg	0.14			NR70
PFNS (68259-12-1)	mg/kg	<0.001			NR70
PFDS (335-77-3)	mg/kg	<0.001			NR70
PFOSA (754-91-6)	mg/kg	<0.001			NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002			NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002			NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002			NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002			NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005			NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005			NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001			NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001			NR70

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Lab Reg No.		N22/007842				
Date Sampled		13-APR-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	mg/kg	<0.001				NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002				NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002				NR70
PFBA (Surrogate Recovery)	%	109				NR70
PFPeA (Surrogate Recovery)	%	117				NR70
PFHxA (Surrogate Recovery)	%	134				NR70
PFHpA (Surrogate Recovery)	%	122				NR70
PFOA (Surrogate Recovery)	%	133				NR70
PFNA (Surrogate Recovery)	%	87				NR70
PFDA (Surrogate Recovery)	%	121				NR70
PFUdA (Surrogate Recovery)	%	58				NR70
PFDoA (Surrogate Recovery)	%	117				NR70
PFTeDA (Surrogate Recovery)	%	28				NR70
PFHxDA (Surrogate Recovery)	%	24				NR70
FOUEA (Surrogate Recovery)	%	127				NR70
PFBS (Surrogate Recovery)	%	117				NR70
PFHxS (Surrogate Recovery)	%	114				NR70
PFOS (Surrogate Recovery)	%	109				NR70
PFOSA (Surrogate Recovery)	%	76				NR70
N-MeFOSA (Surrogate Recovery)	%	92				NR70
N-EtFOSA (Surrogate Recovery)	%	92				NR70
N-MeFOSAA (Surrogate Recovery)	%	84				NR70
N-EtFOSAA (Surrogate Recovery)	%	96				NR70
N-MeFOSE (Surrogate Recovery)	%	86				NR70
N-EtFOSE (Surrogate Recovery)	%	92				NR70
4:2 FTS (Surrogate Recovery)	%	147				NR70
6:2 FTS (Surrogate Recovery)	%	125				NR70
8:2 FTS (Surrogate Recovery)	%	89				NR70
8:2 diPAP (Surrogate Recovery)	%	83				NR70
Dates						
Date extracted		2-MAY-2022				
Date analysed		3-MAY-2022				

Organics - NSW
Accreditation No. 198

05-MAY-2022

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

REPORT OF ANALYSIS

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Report No. RN1350702

Lab Reg No.		N22/007842				
Date Sampled		13-APR-2022				
	Units					Method
Trace Elements						
Total Solids	%	24.9				NT2_49
Dates						
Date extracted		22-APR-2022				
Date analysed		4-MAY-2022				



Inorganics - NSW
Accreditation No. 198

05-MAY-2022

All results are expressed on a dry weight basis.

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Report No. RN1350702

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/007833	0874_QC200_220411	WATER 11.04.2022
N22/007835	0874_QC202_220412	WATER 12.04.2022
N22/007837	0874_QC204_220412	WATER 12.04.2022
N22/007839	0874_QC206_220413	WATER 13.04.2022

Lab Reg No.	Date Sampled	Units	N22/007833	N22/007835	N22/007837	N22/007839	Method
			11-APR-2022	12-APR-2022	12-APR-2022	13-APR-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	<0.05	0.12	<0.05	0.097	NR70	
PFPeA (2706-90-3)	ug/L	<0.02	0.14	<0.02	0.15	NR70	
PFHxA (307-24-4)	ug/L	<0.01	0.60	0.062	0.12	NR70	
PFHpA (375-85-9)	ug/L	<0.01	0.060	0.012	0.083	NR70	
PFOA (335-67-1)	ug/L	<0.01	0.13	0.022	0.072	NR70	
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFPeS (2706-91-4)	ug/L	<0.01	0.24	0.033	0.021	NR70	
PFHxS (355-46-4)	ug/L	0.012	1.8	0.19	0.16	NR70	
PFHpS (375-92-8)	ug/L	<0.01	0.086	<0.01	<0.01	NR70	
PFOS (1763-23-1)	ug/L	<0.02	1.9	0.24	0.32	NR70	
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFBS (375-73-5)	ug/L	<0.01	0.27	0.039	0.041	NR70	
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	

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Lab Reg No.		N22/007833	N22/007835	N22/007837	N22/007839	
Date Sampled		11-APR-2022	12-APR-2022	12-APR-2022	13-APR-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	0.023	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	113	124	120	114	NR70
PFPeA (Surrogate Recovery)	%	157	179	136	182	NR70
PFHxA (Surrogate Recovery)	%	125	95	112	94	NR70
PFHpA (Surrogate Recovery)	%	150	89	110	108	NR70
PFOA (Surrogate Recovery)	%	135	111	143	114	NR70
PFNA (Surrogate Recovery)	%	69	86	169	128	NR70
PFDA (Surrogate Recovery)	%	60	129	134	118	NR70
PFUdA (Surrogate Recovery)	%	81	94	115	91	NR70
PFDoA (Surrogate Recovery)	%	62	65	102	86	NR70
PFTeDA (Surrogate Recovery)	%	62	61	213	88	NR70
PFHxDA (Surrogate Recovery)	%	51	52	74	28	NR70
FOUEA (Surrogate Recovery)	%	108	70	117	111	NR70
PFBS (Surrogate Recovery)	%	128	97	113	102	NR70
PFHxS (Surrogate Recovery)	%	133	106	125	112	NR70
PFOS (Surrogate Recovery)	%	118	104	120	113	NR70
PFOSA (Surrogate Recovery)	%	66	90	112	94	NR70
N-MeFOSA (Surrogate Recovery)	%	73	65	105	65	NR70
N-EtFOSA (Surrogate Recovery)	%	65	55	85	53	NR70
N-MeFOSAA (Surrogate Recovery)	%	65	91	134	90	NR70
N-EtFOSAA (Surrogate Recovery)	%	59	88	176	90	NR70
N-MeFOSE (Surrogate Recovery)	%	72	66	83	59	NR70
N-EtFOSE (Surrogate Recovery)	%	66	66	125	79	NR70
4:2 FTS (Surrogate Recovery)	%	156	170	113	194	NR70
6:2 FTS (Surrogate Recovery)	%	126	118	101	157	NR70
8:2 FTS (Surrogate Recovery)	%	77	119	151	145	NR70
8:2 diPAP (Surrogate Recovery)	%	80	92	127	81	NR70
Dates						
Date extracted		2-MAY-2022	2-MAY-2022	2-MAY-2022	2-MAY-2022	
Date analysed		3-MAY-2022	3-MAY-2022	3-MAY-2022	3-MAY-2022	

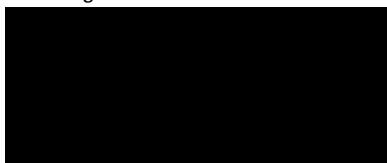
N22/007833
to
N22/007854

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/007841	0874_QC208_220413	WATER 13.04.2022
N22/007843	0874_QC210_220421	WATER 21.04.2022
N22/007844	0874_QC211_220412	WATER 12.04.2022
N22/007845	0874_QC212_220412	WATER 12.04.2022

Lab Reg No.	Sample Ref	Units	N22/007841	N22/007843	N22/007844	N22/007845	Method
Date Sampled			13-APR-2022	21-APR-2022	12-APR-2022	12-APR-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	0.19	0.93	<0.05	<0.05	NR70	
PFPeA (2706-90-3)	ug/L	0.14	0.96	<0.02	<0.02	NR70	
PFHxA (307-24-4)	ug/L	0.55	4.9	0.064	<0.01	NR70	
PFHpA (375-85-9)	ug/L	0.041	0.38	<0.01	<0.01	NR70	
PFOA (335-67-1)	ug/L	0.095	0.79	<0.01	<0.01	NR70	
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFPeS (2706-91-4)	ug/L	0.42	2.2	0.11	<0.01	NR70	
PFHxS (355-46-4)	ug/L	2.2	16	0.39	0.032	NR70	
PFHpS (375-92-8)	ug/L	0.060	0.89	<0.01	<0.01	NR70	
PFOS (1763-23-1)	ug/L	1.5	53	0.072	<0.02	NR70	
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFBS (375-73-5)	ug/L	0.65	2.6	0.24	0.030	NR70	
PFOSA (754-91-6)	ug/L	<0.01	0.050	<0.01	<0.01	NR70	
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	

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Lab Reg No.		N22/007841	N22/007843	N22/007844	N22/007845	
Date Sampled		13-APR-2022	21-APR-2022	12-APR-2022	12-APR-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	0.041	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	124	114	122	117	NR70
PFPeA (Surrogate Recovery)	%	189	130	172	157	NR70
PFHxA (Surrogate Recovery)	%	97	116	140	135	NR70
PFHpA (Surrogate Recovery)	%	114	120	143	142	NR70
PFOA (Surrogate Recovery)	%	106	116	126	135	NR70
PFNA (Surrogate Recovery)	%	131	56	83	97	NR70
PFDA (Surrogate Recovery)	%	119	109	100	122	NR70
PFUdA (Surrogate Recovery)	%	60	117	89	141	NR70
PFDoA (Surrogate Recovery)	%	61	91	71	75	NR70
PFTeDA (Surrogate Recovery)	%	87	115	111	115	NR70
PFHxDA (Surrogate Recovery)	%	45	145	110	54	NR70
FOUEA (Surrogate Recovery)	%	102	119	97	110	NR70
PFBS (Surrogate Recovery)	%	102	119	126	129	NR70
PFHxS (Surrogate Recovery)	%	104	112	134	138	NR70
PFOS (Surrogate Recovery)	%	103	113	117	119	NR70
PFOSA (Surrogate Recovery)	%	100	97	86	122	NR70
N-MeFOSA (Surrogate Recovery)	%	64	105	86	90	NR70
N-EtFOSA (Surrogate Recovery)	%	55	87	75	80	NR70
N-MeFOSAA (Surrogate Recovery)	%	90	115	82	107	NR70
N-EtFOSAA (Surrogate Recovery)	%	81	120	77	99	NR70
N-MeFOSE (Surrogate Recovery)	%	87	133	80	83	NR70
N-EtFOSE (Surrogate Recovery)	%	64	135	123	125	NR70
4:2 FTS (Surrogate Recovery)	%	183	141	113	115	NR70
6:2 FTS (Surrogate Recovery)	%	138	116	104	94	NR70
8:2 FTS (Surrogate Recovery)	%	126	120	85	108	NR70
8:2 diPAP (Surrogate Recovery)	%	74	118	97	136	NR70
Dates						
Date extracted		2-MAY-2022	2-MAY-2022	2-MAY-2022	2-MAY-2022	
Date analysed		3-MAY-2022	3-MAY-2022	3-MAY-2022	3-MAY-2022	

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Lab Reg No.			N22/007841	N22/007843	N22/007844	N22/007845	
Date Sampled			13-APR-2022	21-APR-2022	12-APR-2022	12-APR-2022	
		Units					Method

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/007846	0874_QC213_220413	WATER 13.04.2022
N22/007847	0874_QC214_220413	WATER 13.04.2022
N22/007848	0874_QC215_220414	WATER 14.04.2022
N22/007849	0874_QC216_220414	WATER 14.04.2022

Lab Reg No.	Sample Ref	Units	N22/007846	N22/007847	N22/007848	N22/007849	Method
Date Sampled			13-APR-2022	13-APR-2022	14-APR-2022	14-APR-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	<0.05	0.79	0.053	<0.05	NR70	
PFPeA (2706-90-3)	ug/L	0.020	1.4	<0.02	<0.02	NR70	
PFHxA (307-24-4)	ug/L	0.080	9.4	<0.01	0.013	NR70	
PFHpA (375-85-9)	ug/L	<0.01	1.2	<0.01	<0.01	NR70	
PFOA (335-67-1)	ug/L	0.011	3.5	<0.01	<0.01	NR70	
PFNA (375-95-1)	ug/L	<0.01	0.041	<0.01	<0.01	NR70	
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFPeS (2706-91-4)	ug/L	0.051	2.0	0.014	<0.01	NR70	
PFHxS (355-46-4)	ug/L	0.38	48	0.098	0.12	NR70	
PFHpS (375-92-8)	ug/L	<0.01	1.2	<0.01	<0.01	NR70	
PFOS (1763-23-1)	ug/L	0.12	41	0.24	0.33	NR70	
PFNS (68259-12-1)	ug/L	<0.01	0.044	<0.01	<0.01	NR70	
PFBS (375-73-5)	ug/L	0.070	1.6	0.040	0.019	NR70	
PFOSA (754-91-6)	ug/L	<0.01	0.029	<0.01	<0.01	NR70	
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	

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Lab Reg No.			N22/007846	N22/007847	N22/007848	N22/007849	
Date Sampled			13-APR-2022	13-APR-2022	14-APR-2022	14-APR-2022	
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.016	0.11	<0.01	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	118	123	120	117		NR70
PFPeA (Surrogate Recovery)	%	138	104	116	138		NR70
PFHxA (Surrogate Recovery)	%	119	108	152	126		NR70
PFHpA (Surrogate Recovery)	%	114	105	120	121		NR70
PFOA (Surrogate Recovery)	%	125	123	131	138		NR70
PFNA (Surrogate Recovery)	%	114	35	92	109		NR70
PFDA (Surrogate Recovery)	%	143	93	84	105		NR70
PFUdA (Surrogate Recovery)	%	133	57	102	140		NR70
PFDoA (Surrogate Recovery)	%	90	67	64	69		NR70
PFTeDA (Surrogate Recovery)	%	131	96	130	141		NR70
PFHxDA (Surrogate Recovery)	%	125	152	185	75		NR70
FOUEA (Surrogate Recovery)	%	109	134	100	77		NR70
PFBS (Surrogate Recovery)	%	111	114	124	126		NR70
PFHxS (Surrogate Recovery)	%	114	118	127	135		NR70
PFOS (Surrogate Recovery)	%	113	106	122	121		NR70
PFOSA (Surrogate Recovery)	%	112	66	98	84		NR70
N-MeFOSA (Surrogate Recovery)	%	122	126	102	57		NR70
N-EtFOSA (Surrogate Recovery)	%	87	102	96	53		NR70
N-MeFOSAA (Surrogate Recovery)	%	121	63	94	101		NR70
N-EtFOSAA (Surrogate Recovery)	%	140	114	91	97		NR70
N-MeFOSE (Surrogate Recovery)	%	79	95	117	69		NR70
N-EtFOSE (Surrogate Recovery)	%	109	165	116	70		NR70
4:2 FTS (Surrogate Recovery)	%	111	139	89	109		NR70
6:2 FTS (Surrogate Recovery)	%	94	83	87	99		NR70
8:2 FTS (Surrogate Recovery)	%	145	106	77	105		NR70
8:2 diPAP (Surrogate Recovery)	%	127	96	120	115		NR70
Dates							
Date extracted		2-MAY-2022	2-MAY-2022	2-MAY-2022	2-MAY-2022		
Date analysed		3-MAY-2022	3-MAY-2022	3-MAY-2022	3-MAY-2022		

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Lab Reg No.			N22/007846	N22/007847	N22/007848	N22/007849	
Date Sampled			13-APR-2022	13-APR-2022	14-APR-2022	14-APR-2022	
		Units					Method



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Report No. RN1350702

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/007850	0874_QC217_220414	WATER 14.04.2022
N22/007851	0874_QC218_220419	WATER 19.04.2022
N22/007852	0874_QC219_220420	WATER 20.04.2022
N22/007853	0874_QC220_220421	WATER 21.04.2022

Lab Reg No.	Date Sampled	Units	N22/007850 14-APR-2022	N22/007851 19-APR-2022	N22/007852 20-APR-2022	N22/007853 21-APR-2022	Method
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	<0.05	5.5	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	<0.02	7.6	NR70
PFHxA (307-24-4)	ug/L	<0.01	<0.01	<0.01	<0.01	40	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	0.011	4.8	NR70	
PFOA (335-67-1)	ug/L	<0.01	<0.01	0.035	13	NR70	
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	0.080	NR70	
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	0.013	NR70	
PFPeS (2706-91-4)	ug/L	<0.01	<0.01	<0.01	18	NR70	
PFHxS (355-46-4)	ug/L	<0.01	0.020	0.011	250	NR70	
PFHpS (375-92-8)	ug/L	<0.01	<0.01	<0.01	16	NR70	
PFOS (1763-23-1)	ug/L	0.025	0.051	0.066	200	NR70	
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	0.12	NR70	
PFBS (375-73-5)	ug/L	<0.01	<0.01	0.015	16	NR70	
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	0.051	NR70	
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70	
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70	
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70	

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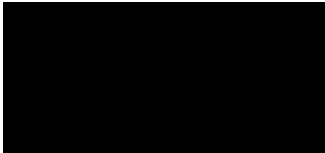
Lab Reg No.			N22/007850	N22/007851	N22/007852	N22/007853	
Date Sampled			14-APR-2022	19-APR-2022	20-APR-2022	21-APR-2022	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01	0.42	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	0.015	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	119	122	113	101		NR70
PFPeA (Surrogate Recovery)	%	144	134	122	99		NR70
PFHxA (Surrogate Recovery)	%	122	142	148	91		NR70
PFHpA (Surrogate Recovery)	%	138	128	147	84		NR70
PFOA (Surrogate Recovery)	%	114	119	133	96		NR70
PFNA (Surrogate Recovery)	%	107	81	125	29		NR70
PFDA (Surrogate Recovery)	%	90	95	108	89		NR70
PFUdA (Surrogate Recovery)	%	76	70	116	57		NR70
PFDoA (Surrogate Recovery)	%	62	81	157	53		NR70
PFTeDA (Surrogate Recovery)	%	45	69	157	80		NR70
PFHxDA (Surrogate Recovery)	%	90	88	124	220		NR70
FOUEA (Surrogate Recovery)	%	92	105	89	134		NR70
PFBS (Surrogate Recovery)	%	117	128	125	97		NR70
PFHxS (Surrogate Recovery)	%	125	126	139	111		NR70
PFOS (Surrogate Recovery)	%	113	112	116	107		NR70
PFOSA (Surrogate Recovery)	%	75	66	102	72		NR70
N-MeFOSA (Surrogate Recovery)	%	43	72	76	150		NR70
N-EtFOSA (Surrogate Recovery)	%	40	63	77	109		NR70
N-MeFOSAA (Surrogate Recovery)	%	78	71	120	81		NR70
N-EtFOSAA (Surrogate Recovery)	%	73	74	118	86		NR70
N-MeFOSE (Surrogate Recovery)	%	64	43	78	191		NR70
N-EtFOSE (Surrogate Recovery)	%	66	68	115	144		NR70
4:2 FTS (Surrogate Recovery)	%	138	124	102	87		NR70
6:2 FTS (Surrogate Recovery)	%	99	110	104	77		NR70
8:2 FTS (Surrogate Recovery)	%	84	79	110	81		NR70
8:2 diPAP (Surrogate Recovery)	%	82	87	131	106		NR70
Dates							
Date extracted		2-MAY-2022	2-MAY-2022	2-MAY-2022	2-MAY-2022		
Date analysed		3-MAY-2022	3-MAY-2022	3-MAY-2022	3-MAY-2022		

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Lab Reg No.			N22/007850	N22/007851	N22/007852	N22/007853	
Date Sampled			14-APR-2022	19-APR-2022	20-APR-2022	21-APR-2022	
		Units					Method



Organics - NSW

Accreditation No. 198

05-MAY-2022

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/220428/1 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 28-APR-2022 Sampled By : CLIENT Phone : [REDACTED]
--	---

Lab Reg No.	Sample Ref	Sample Description
N22/007854	0874_QC502_220426	WATER 26.04.2022

Lab Reg No.	Date Sampled	Units	N22/007854	26-APR-2022	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	<0.05			NR70
PFPeA (2706-90-3)	ug/L	<0.02			NR70
PFHxA (307-24-4)	ug/L	<0.01			NR70
PFHpA (375-85-9)	ug/L	<0.01			NR70
PFOA (335-67-1)	ug/L	<0.01			NR70
PFNA (375-95-1)	ug/L	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01			NR70
PFPeS (2706-91-4)	ug/L	<0.01			NR70
PFHxS (355-46-4)	ug/L	<0.01			NR70
PFHpS (375-92-8)	ug/L	<0.01			NR70
PFOS (1763-23-1)	ug/L	<0.02			NR70
PFNS (68259-12-1)	ug/L	<0.01			NR70
PFBS (375-73-5)	ug/L	<0.01			NR70
PFOSA (754-91-6)	ug/L	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01			NR70
6:2 FTS (27619-97-2)	ug/L	<0.01			NR70

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Lab Reg No.			N22/007854			
Date Sampled			26-APR-2022			
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	118				NR70
PFPeA (Surrogate Recovery)	%	115				NR70
PFHxA (Surrogate Recovery)	%	121				NR70
PFHpA (Surrogate Recovery)	%	97				NR70
PFOA (Surrogate Recovery)	%	101				NR70
PFNA (Surrogate Recovery)	%	122				NR70
PFDA (Surrogate Recovery)	%	130				NR70
PFUdA (Surrogate Recovery)	%	108				NR70
PFDoA (Surrogate Recovery)	%	110				NR70
PFTeDA (Surrogate Recovery)	%	133				NR70
PFHxDA (Surrogate Recovery)	%	118				NR70
FOUEA (Surrogate Recovery)	%	88				NR70
PFBS (Surrogate Recovery)	%	104				NR70
PFHxS (Surrogate Recovery)	%	113				NR70
PFOS (Surrogate Recovery)	%	112				NR70
PFOSA (Surrogate Recovery)	%	93				NR70
N-MeFOSA (Surrogate Recovery)	%	53				NR70
N-EtFOSA (Surrogate Recovery)	%	50				NR70
N-MeFOSAA (Surrogate Recovery)	%	116				NR70
N-EtFOSAA (Surrogate Recovery)	%	122				NR70
N-MeFOSE (Surrogate Recovery)	%	77				NR70
N-EtFOSE (Surrogate Recovery)	%	70				NR70
4:2 FTS (Surrogate Recovery)	%	104				NR70
6:2 FTS (Surrogate Recovery)	%	99				NR70
8:2 FTS (Surrogate Recovery)	%	125				NR70
8:2 diPAP (Surrogate Recovery)	%	180				NR70
Dates						
Date extracted		2-MAY-2022				
Date analysed		3-MAY-2022				

Organics - NSW
Accreditation No. 198

05-MAY-2022

105 Delhi Road, North Ryde NSW 2113 Tel: +61 2 9449 0111 Web: industry.gov.au/measurement

National Measurement Institute

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ACCREDITED FOR
**TECHNICAL
COMPETENCE**

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1350692*

Measurement Uncertainty is available upon request.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
Department of Industry,
Innovation and Science

National Measurement Institute

SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/220428/1
Total No. of Samples: 22

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/007833	5-MAY-2022	0874_QC200_220411	WATER 11.04.2022

105 Delhi Road, North Ryde, NSW 2113 Tel: +61 2 9449 0111 www.measurement.gov.au

N a t i o n a l M e a s u r e m e n t I n s t i t u t e

N22/007834	5-MAY-2022	0874_QC201_220411	SOIL 11.04.2022
N22/007835	5-MAY-2022	0874_QC202_220412	WATER 12.04.2022
N22/007836	5-MAY-2022	0874_QC203_220412	SOIL 12.04.2022
N22/007837	5-MAY-2022	0874_QC204_220412	WATER 12.04.2022
N22/007838	5-MAY-2022	0874_QC205_220412	SOIL 12.04.2022
N22/007839	5-MAY-2022	0874_QC206_220413	WATER 13.04.2022
N22/007840	5-MAY-2022	0874_QC207_220413	SOIL 13.04.2022
N22/007841	5-MAY-2022	0874_QC208_220413	WATER 13.04.2022
N22/007842	5-MAY-2022	0874_QC209_220413	SOIL 13.04.2022
N22/007843	5-MAY-2022	0874_QC210_220421	WATER 21.04.2022
N22/007844	5-MAY-2022	0874_QC211_220412	WATER 12.04.2022
N22/007845	5-MAY-2022	0874_QC212_220412	WATER 12.04.2022
N22/007846	5-MAY-2022	0874_QC213_220413	WATER 13.04.2022
N22/007847	5-MAY-2022	0874_QC214_220413	WATER 13.04.2022
N22/007848	5-MAY-2022	0874_QC215_220414	WATER 14.04.2022
N22/007849	5-MAY-2022	0874_QC216_220414	WATER 14.04.2022
N22/007850	5-MAY-2022	0874_QC217_220414	WATER 14.04.2022
N22/007851	5-MAY-2022	0874_QC218_220419	WATER 19.04.2022
N22/007852	5-MAY-2022	0874_QC219_220420	WATER 20.04.2022

N22/007853	5-MAY-2022	0874_QC220_220421	WATER 21.04.2022
N22/007854	5-MAY-2022	0874_QC502_220426	WATER 26.04.2022

SAMPLE RECEIVED CONDITION

Date samples received:	28-APR-2022
Sample received in good order:	Yes
NMI Quotation no. provided:	QLD_0874_PFASOMP
Client purchase order number:	60612487_2_1
Temperature of samples:	Chilled
Comments:	
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation.

NMI Terms and Conditions are available on the web at

<https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>

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N a t i o n a l M e a s u r e m e n t I n s t i t u t e

Appendix F

Calibration Certificates

Multi Parameter Water Meter



Instrument YSI Quatro Pro Plus
Serial No. 09K100890

Air-Met Scientific Pty Ltd
 1300 137 067

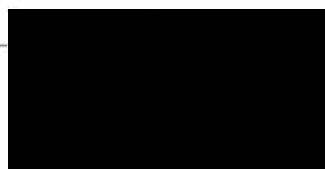
Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.02	NIST	368681	pH 7.02
2. pH 4.00		pH 4.00	NIST	373952	pH 4.00
3. mV		234.5mV	NIST	377347/374426	234.7mV
4. EC		2760uS	NIST	368682	2760uS
6. D.O		0 ppm	NIST	11171	0 ppm
7. Temp		22.5°C	NIST	Testo Mini901	22.5.oC

Calibrated by:



Calibration date: 18/03/2022

Next calibration due: 18/09/2022

Oil / Water Interface Meter

Instrument **Interface Meter (30M)**
Serial No. **348897**



Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

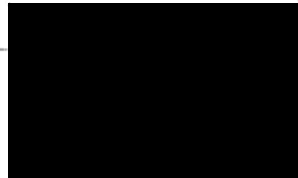
Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by:

Calibration date: 6/04/2022

Next calibration due: 6/10/2022



Oil / Water Interface Meter



Instrument Solinst Interface Meter (30M)
Serial No. 348776

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity above 7.9v	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
Tape Check	Cleaned	✓	
Connectors	Checked for cuts	✓	
Instrument Test	At surface level	✓	

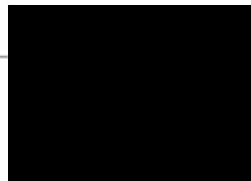
Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by:

Calibration date: 17-Mar-22

Next calibration due: 17-Sep-22





Calibration Certificate

AirMet Scientific P/L
 135 Sydney Street
 Mackay
 QLD 4740, Australia
 Tel: 07 4951 7500
 Fax: 07 4951 7575

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 3-Dec-2021 Call ID / Order No: 253534
 Calibration Date: 02-Dec-2021 Job No / Pack No: S2535340001
 Next Calibration Due: 2-Dec-2022

Customer: AECOM Australia Pty Ltd (Townsville)-ID **Serial No:** 18K102334
Description: 407250
 Xylem ProDSS Handheld, No GPS

Calibration Summary

Frequency: 365 Days **Temp:** 24°C **As Found:** Out of Tolerance **Result:** Pass
Humidity: 45% **Certificate:** S2535340001

<u>Desc</u>	<u>As Found</u>		<u>As Left (Cal Status)</u>	
	<u>Actual</u>	<u>Result</u>	<u>Actual</u>	<u>Result</u>
PH4 s/n373952	-11.98	Fail	4.0	Pass
PH7 s/n374422	-5.98	Fail	7.02	Pass
Specific Conductivity 2760 s/n368682	2760.0	Pass	2760.0	Pass
DO s/n11171	-0.8	Pass	0.0	Pass
ORP s/n377347 363903	231.9	Pass	230.2	Pass
Turbidity100 s/n378286	86.8	Fail	98.9	Pass
Barometer	100.71	Pass	100.86	Pass

<u>Equip ID</u>	<u>Standard Used</u>	<u>Valid Until</u>	<u>Cert</u>
	<u>Description</u>		
901	Testo Mini Thermometer	23/06/2022	
S4220604	Vaisala PTU Transmitter	14/10/2022	

Completed By: _____

Signed:

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	606124	
Project Location:	KARF TSV		Client:	60612481	
PM Name:	[REDACTED]		Fieldwork Staff Name:	DEFENCE	

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS					
Supplier:	AIRMET				
Make and Model:	YSI PRO PLUS				
Serial Number:	09K100890				

CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	11/04 0740				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH 7	pH 4	µS/cm	MLV	Mg/L
Calibration Standard Concentration:	7.00	4	2655	240	11.62
Calibration Reading:	6.98	4.13	2567	224	11.87
Calibration Temperature:	22.80	20.30	22.20	22.30	21.10

ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	12/04/22 07:30				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ORP ppm V	PPM
Calibration Standard Concentration:	7.00	4.00	2655	234.1	-
Bump Test Reading:	6.98	4.06	2640	235.8	4.90
Bump Test Temperature:	23.8	24.2	24.4	23.4	25.6

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

 [REDACTED] _____
 Date: 12/04/22

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFASOMP	Project Number:	60612487
Project Location:	RAAF TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/4/22 0745				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	MLV	ppm mg/L
Calibration Standard Concentration:	7.01	4.00	2707	240	8.63
Calibration Reading:	6.86	3.86	2612	239.3	8.64
Calibration Temperature:	22.4	22.3	24.4	22.4	22

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	12/4/22 0730				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	MLV	ppm Mg/L
Calibration Standard Concentration:	7.01	4.00	2707	240	8.44
Bump Test Reading:	7.00	4.14	2616	233.2	8.21
Bump Test Temperature:	22.0	22.0	23.4	23.4	23.2

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

[REDACTED]
12/4/22

Fieldwork Staff Signature
Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612481
Project Location:	RAAF TSU	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS	
Supplier:	AIRMET
Make and Model:	PROFESSIONAL SERIES.
Serial Number:	09 K1 00890

CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	13/4/22		07:22		
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	%
Calibration Standard Concentration:	7	4	2665	235	100
Calibration Reading:	7.18	4.08	2664	235.1	112.1
Calibration Temperature:	23.0	23.3	22.7	27.2	23.0

ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution
<input checked="" type="checkbox"/> Each individual instrument used and calibrated daily and bump tested as required by fieldwork staff.
<div style="display: flex; justify-content: space-between;"> <div style="border-top: 1px solid black; width: 30%; text-align: center;"> <p>[REDACTED]</p> <p>Fieldwork Staff Signature</p> </div> <div style="border-top: 1px solid black; width: 30%; text-align: center;"> <p>13/4/22</p> <p>Date</p> </div> </div>

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

PFAS OMP

Project Name:	60612	Project Number:	60612487
Project Location:	RAAF TSV	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Amet Macbay
Make and Model:	YSI Pro Plus
Serial Number:	09K100890

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/4/22 07:10				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm mV	ppm %
Calibration Standard Concentration:	7.00	4.00	2655	235.2	100
Calibration Reading:	7.05	4.08	2570	230.7	80.5
Calibration Temperature:	22.7	22.7	22.7	22.7	23.9

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

 [Redacted Signature] Date 14/4/22

Distribution: Project Central File

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FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP	Project Number:	60612487
Project Location:	RAAF TSV	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	PRO DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	19/4/22 08:00				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ORP ppm mV	ppm %
Calibration Standard Concentration:	7.00	4.00	2655	233.9	100
Calibration Reading:	7.06	4.08	2658	251.7	99.8
Calibration Temperature:	21.6	22.4	22.5	22.8	22.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:	20/4/22 06:50				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm %
Calibration Standard Concentration:	7.00	4.00	2665	234.1	100
Bump Test Reading:	7.04	4.01	2769	213.6	99.8
Bump Test Temperature:	22.1	22.2	23.2	22.6	22.7

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty comment box]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

FI [Redacted]

20/4/22
Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP		Project Number:	60612487	
Project Location:	RAAF TSU		Client:	Defence	
PM Name:	[Redacted]		Fieldwork Staff Name:	[Redacted]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	21/4/22 07:00				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ORP ppm mV	ppm %
Calibration Standard Concentration:	7.00	4.00	2655	234.2	100
Calibration Reading:	7.14	4.10	2711	226.4	100.2
Calibration Temperature:	22.3	22.5	22.4	22.6	23.3
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	22/4/22 07:10				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ORP ppm mV	ppm %
Calibration Standard Concentration:	7.00	4.00	2655	234.3	100
Bump Test Reading:	7.01	4.01	2644	227.7	99.7
Bump Test Temperature:	24.2	23.1	22.5	22.4	22.3
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[Redacted Signature]			22/4/22		
Signature			Date		
Distribution: Project Centre					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS omp	Project Number:	60612487
Project Location:	RAAF TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRODS5
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	5/5/22 0600				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	7.00	4.01	2760	229	100
Calibration Reading:	6.98	4.07	1930	236.8	99.9
Calibration Temperature:	28.0	24.9	24.6	24.7	23.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

5/5/22

Date

Distribution: Project Central File

Dry Season Sampling Factual Report, October and December 2022

PFAS OMP - RAAF Base Townsville

20-Oct-2023
PFAS Ongoing Monitoring Program - RAAF Base Townsville
Doc No. 60612487_RP81_20231020_3

Dry Season Sampling Factual Report, October and December 2022

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO
Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

20-Oct-2023

Job No.: 60612487

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Quality Information

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Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure, as amended (2013)
BoM	Bureau of Meteorology
BTOC	Below top of casing
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies
LOR	Limit of reporting
NEMP	National Environmental Management Plan
NEPM	National Environmental Protection Measure
NMI	National Measurement Institute
NSW	New South Wales
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling Analysis Quality Plan
SD	Sediment
SW	Surface Water
SWL	Standing Water Level

Units of measurement

Unit	Definition	Unit	Definition
AHD	Above height datum	mg	Milligrams
°C	Degrees Celsius	mm	Millimetre
L	Litre	cm	Centimetre
µS	Microsiemens	mV	Millivolts
kg	Kilogram	µg	Micrograms
m	Metre		

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2019a) at RAAF Base Townsville (the 'Base') located in the North Queensland Region. The Monitoring Area (which includes areas on-Base and off-Base), location of the Base and the PFAS Source Areas are shown in **Figure 1** in **Appendix A**.

The OMP for Townsville (Defence, 2019a) includes the following sampling events:

- Biannual groundwater, surface water, and sediment sampling events in April and October 2020, 2021, and April 2022.
- Rainfall event-based sampling in response to 50 mm of rainfall recorded at Townsville Aero (station 032040) by the Bureau of Meteorology (BoM) or 100 mm of cumulative rainfall over a 7-day period including:
 - Surface water sampling at 19 locations, daily for a period of five consecutive days, limited to one event per calendar year.

In July 2022, Defence extended the period for the OMP sampling events by two years with additional biannual sampling events scheduled for October 2022, April 2023, October 2023 and April 2024.

A sampling and analysis quality plan (SAQP, AECOM, 2022) provides details of the sampling events.

This sampling event factual report has been prepared to report the results of the 2022 Dry Season Sampling Event, which was completed in October 2022 with supplementary sampling completed in December 2022 to confirm selected results. This report specifically highlights first-time detections and/or new exceedances of human health screening criteria for perfluorohexane sulfonic acid (PFHxS) + perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and new exceedances of ecological screening criteria for PFOS and PFOA.

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP (Defence, 2019a); and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2022 Dry Season Sampling Event scope of works in accordance with the SAQP (AECOM, 2022).

2.0 Scope of Work

The sampling event at the Base was completed in general accordance with the SAQP (AECOM, 2022). In summary, the scope of works for this sampling event included:

- Review of the SAQP prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (HEPA, 2020)
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Concurrent gauging of 26 of the nominated 27 groundwater monitoring wells across a single day to enable groundwater contour generation (refer to **Table T1** in **Appendix B**). One groundwater monitoring well (MW116) was unable to be gauged due to being decommissioned (refer **Section 3.7** for details).
- Collection of groundwater samples. MW116, MW126 and MW129 were decommissioned prior to the sampling round and were therefore not accessible. MW301 and MW470 were dry. Of the 85 locations proposed to be sampled, 57 on-Base groundwater samples, and 23- off-Base groundwater samples (refer to **Table 1** below, and **Figure 2** in **Appendix A**) were able to be collected. Standing water level (SWL) was measured in all wells immediately prior to sampling.
- Collection of co-located surface water and sediment samples. Of the 42 planned locations, sediment was able to be collected at 14 on-Base and 27 off-Base locations, and surface water was able to be collected at 7 on-Base and 26 off-Base locations (refer to **Table 2** and **Table 3** below, and **Figure 3** in **Appendix A**). Surface water was not able to be collected at all locations as some areas were dry (SW001, SW013, SW016, SW019, SW102, SW121, SW132). Surface water was unable to be collected at SW125 due to access constraints from overgrown vegetation. Sediment was unable to be collected at SD126 as sediment was not present.
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Resampling and analysis for the PFAS suite (28 analytes), at the standard LOR, of MW218, SD014, SD125 and SD120, in December 2022, to confirm new detects and new historical maximums.
- Collection of field duplicate and triplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per batch.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this Dry Season Sampling Event Factual Report.

Deviations from the above outlined scope of work in accordance with the SAQP are documented in **Section 3.7**.

Table 1 Groundwater Sampling Locations

Source Area	Monitoring Well ID
Sub-Management Area 1 – includes a Former Fire Training Area.	MW013, MW116*, MW118, MW126*, MW129*
Sub-Management Area 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005, MW015, MW016, MW021, MW046^, MW054^, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
Sub-Management Area 3 – includes 5th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of Sub-Management Area 2	MW136, MW140, MW243, MW244
North west of Runway 07/25	MW112
East and south east of Sub-Management Area 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW229
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW234, MW241, MW242, MW245, MW255, MW265, MW300, MW470^
Off-Base – Townsville Town Common, north of the Base	MW205, MW206, MW207, MW208
Off-Base – Suburb of Pallarenda, north east of the Base	MW233, MW252, MW253, MW301^
Off-Base – Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW264, MW467, MW471
Off-Base – Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW221, MW225, MW263, MW267

* Following finalisation of the SAQP, some locations were decommissioned by contractors conducting works in Sub-management Area 1. These locations will be removed from the next revision of the SAQP.

^ MW301 and MW470 were dry.

Table 2 Surface Water Sampling Locations

Locations	Surface Water Location ID	
On-Base	Mundy Creek Catchment	SW001, SW010, SW106, SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207
	Three Mile Creek Catchment	SW107, SW210

Table 3 Sediment Sampling Locations

Locations		Sediment Location ID
On-Base	Mundy Creek Catchment	SD001, SD010, SD106, SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126 [^] , SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

[^] No sediment present at SD126 available for sampling due to rocky conditions.

3.0 Methodology

The methodology used for the 2022 Dry Season Sampling Event was in general accordance with the SAQP (AECOM, 2022) and is summarised in **Sections 3.1-3.7**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 4** below.

Table 4 Groundwater Sampling Methodology

Item	Details
Groundwater Gauging	An initial gauging round of 26 monitoring wells using an interface probe was undertaken to enable groundwater contour generation (results detailed in Table T1, Appendix B). The depth to groundwater was also measured in each monitoring well immediately prior to the collection of groundwater samples.
Water Quality Parameters	Field parameters are collected ex situ post-sampling using water from the HydraSleeve™. Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (results detailed in Table T2, Appendix B). Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling Methodology	Groundwater samples were collected from all monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer. HydraSleeves™ were not redeployed due to conflict with other groundwater monitoring programs.

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 5** below.

Table 5 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Field parameters are collected ex situ post-sampling using water from the stainless-steel scoop. Temperature, EC, DO, ORP, pH and observations of water quality were recorded using a calibrated water quality meter (results detailed in Table T4, Appendix B). Equipment calibration certificates for the water quality meter are provided in Appendix F .
Sampling Methodology	Samples were collected from immediately below the water surface, with either a sampling pole or directly into laboratory supplied sample containers, to minimise collection of sediment or floating materials in the samples. At each location, a new, laboratory-supplied container was lowered into the water with the cap immediately applied once the container was full. Where the waterway could not be accessed from the bank a telescopic sampler with a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into the new laboratory supplied container.

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 6** below.

Table 6 Sediment Sampling Methodology

Item	Details
Sampling Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a piston sediment sampler or with a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .

3.4 Quality Assurance/Quality Control and Analysis

The Quality Assurance/Quality Control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 7**, below.

Table 7 QA/QC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e., splits), trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water and were included at a rate of one per batch of samples (excluding private property sampling). Rinsate samples were collected at a rate of one per day of sampling when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. The National Measurement Institute (NMI) of Sydney, NSW was used as the secondary laboratory. ALS and NMI methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.5 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS National Environmental Management Plan (NEMP), Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, version 2.0 (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. October 2017 [updated September 2019].
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the OMP (Defence, 2019a) and SAQP (AECOM, 2022), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 8** below.

Table 8 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking Water	PFOS + PFHxS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). Where the guideline value refers to the sum of PFOS + PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). <i>All off base groundwater results will be compared to these criteria.</i>
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine water (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no endorsed human health or ecological guideline values available for sediment.

3.6 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2022). Data validation assessment is provided in **Appendix C**. Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event have been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2021) Annex L requirements.

3.7 Deviations from the SAQP

Table 9 lists the deviations from the SAQP (AECOM, 2022) during this sampling round.

Table 9 Deviations from the SAQP during 2022 Dry Season Sampling Event

SAQP	2022 Dry Season Sampling Event	Impact of Deviation
Collection of field parameters at all sampling locations	Water quality parameters were not recorded for groundwater monitoring wells MW004, MW255 and MW207 due to data migration errors in AECOM's electronic data collection program. There was insufficient water at MW246 MW471 for collection of water quality parameters. MW301 and MW470 were dry and therefore parameters were not recorded.	Minimal impact – water quality parameters are not used for interpretation of PFAS data. These locations will be resampled in the wet season of 2023.
Sample MW116, MW126 and MW129	MW116, MW126 and MW129 were unable to be gauged and sampled as they had been decommissioned by contractors working in Sub-Management Area 1.	Minimal impact – two monitoring wells (MW013 and MW118) remain within Sub management area one and were able to be sampled, therefore coverage can be maintained via these and surrounding monitoring wells.
Resample MW218, SD014, SD120, SD125	Resampled MW218, SD014, SD120, SD125 in December 2022 due to new historical maximums reported during October Dry Season 2022 sampling event.	Minimal impact – The resampled results for MW218 and SD120 were closer to the October 2022 sampling result and therefore confirms the concentrations at these location in the 2022 dry season. The resampled results for SD014 and SD125 were closer to previous historical maximum (pre-October 2022) therefore confirms the concentrations at these location in the 2022 dry season.
Sample MW301, and MW470	MW301 and MW470 were not sampled as the wells were dry.	Minimal impact – locations was last sampled on 14 April 2022 and will be sampled again in the 2023 wet season. There are also three other wells in the vicinity of Rowe's Bay, where MW301 and MW470 are located. The nearby wells provide coverage of the area as part of the dry season groundwater monitoring round.
Collect surface water samples at SW001, SW013, SW016, SW019, SW125, SW121, SW132, SW102 and SW107	SW001, SW013, SW016, SW019, SW121, SW132, SW102 and SW107 were not sampled due to insufficient water volume. SW125 was not sampled due to access constraints from overgrown vegetation.	The results demonstrate that water is not always present in these areas all year round. Minimal impact, locations will be sampled during the wet season sampling event 2023. One other surface water sample was taken near SW107 (Three Mile Creek). Three other surface water samples were taken near SW121 and SW132 (Mundy Creek Catchment). Sediment samples were able to be collected.
Sediment sampling at SD126	SD126 was covered with rocks and there was no sediment available for sampling.	Minimal impact – location has historically been sampled and will be resampled in the wet season of 2023.

4.0 Well Network Maintenance

Maintenance on five existing monitoring wells within the RAAF Base Townsville PFAS OMP network was completed by AECOM on 1 August 2022.

Table 10 below provides a summary of the work completed. **Appendix G** present a photolog of completed maintenance works.

Table 10 Summary of Maintenance Works Completed By AECOM On The Well Network

Well ID	Description of Work
MW244	Dislocated and rusted gatic and cover replaced with new monument.
MW056	Existing monument rusted at base, replaced monument.
MW222	Damaged gatic bolt, replaced single bolt.
MW262	Damaged/bent bolt tabs, new gatic and cover installed
MW253	Existing monument damaged. New gatic installed level with surrounding ground to mitigate future damage.

Prior to the works where ground disturbance was required, a service locator was engaged to ensure avoidance of services for safety and property protection purposes during digging around the headworks of the well.

5.0 Field Observations and Results

The 2022 Dry Season Sampling Event was completed between 5 October and 19 October 2022 and on the 12 and 13 December 2022. Groundwater gauging and deployment of HydraSleeves™ was conducted at the beginning of the sampling round.

The results are summarised in the following sections.

Details on weather conditions and estate management works or training activities during the sampling event are recorded in **Table 11**.

Table 11 Weather Conditions and Estate Activities at Time of Sampling

Item	Observations
Weather Conditions	<p>Weather was warm and sunny during the sampling program in October and December 2022. The temperature in October 2022 ranged between 21.5 °C and 31.5 °C during the sampling event and 25.5 °C to 32.7 °C in December 2022.</p> <p>A summary of the rainfall recorded before and during the event includes:</p> <ul style="list-style-type: none"> • May 2022: 153 mm. • June 2022: 24 mm. • July 2022: 50 mm. • August 2022: 1 mm. • September 2022: 21 mm. • October 2022: 42 mm (however no rain was recorded during the sampling event).
Estate Management Works or Training Activities	<p>No active remediation was underway during the sampling program. Sub-management area One was undergoing preparation works for upcoming remediation activities.</p>

The results of the sampling event are summarised in **Sections 5.2-5.3**.

5.1 Groundwater

5.1.1 Observations and Field Measurements

Table 12 Groundwater Observations and Field Measurements

Item	Observations
Access	All monitoring wells were accessible.
Monitoring Well Network	MW116, MW126 and MW129 are now decommissioned and therefore were not sampled. All remaining monitoring wells were in good condition.
Field Observations	<p>Groundwater from six monitoring well locations (MW118, MW056, MW135, MW244, MW264, MW267) had a distinct organic odour while a weak organic odour was observed at MW016, MW055, MW002, MW033, MW226, MW227, MW234, MW265, MW213, MW225 and MW467.</p> <p>Groundwater colour was typically recorded as turbid light brown, low to medium turbidity.</p> <p>No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.</p> <p>Field observations are presented Table T2, Appendix B.</p>
Depth to Groundwater	<p>For the entire October 2022 dataset, depth to groundwater ranged between 0.566 (MW002) and 3.720 (MW470) metres below top of casing (mBTOC). Groundwater elevations were between 0.375 (MW244) and 3.934 metres Australian Height Datum (mAHD) (MW038) during the sampling round. These groundwater gauging data are presented in Table T2, Appendix B.</p> <p>Selected wells were gauged to ascertain groundwater flow direction. For the gauging event on 5 October 2022 (presented in Table T1, Appendix B depth to groundwater ranged between 0.566 (MW002) and 3.226 (MW225) metres below top of casing (mBTOC). Groundwater elevations were between 0.413 (MW244) and 4.047 metres Australian Height Datum (mAHD) (MW232)</p>
Groundwater Flow Direction	Groundwater contours and inferred groundwater flow directions for the gauging event on 5 October 2022 are shown on Figure 4 in Appendix A . In the central and northern portions of the base the inferred local groundwater flow direction is to the north-north-west towards the Town Common. There appears to be localised mounding of groundwater in the south eastern corner of the Base with radial groundwater flow to the north, north-east and south-east which is consistent with historical data. The groundwater flow off-Base to the east is flat.
Water Quality Parameters	<p>Groundwater quality parameters were measured at the time of sampling. The readings are presented in Table T2, Appendix B and are summarised below, covering the main sampling event completed in October 2022:</p> <ul style="list-style-type: none"> • DO results ranged between 0.19 mg/L (MW227) to 7.4 mg/L (MW208) indicating poor to well oxygenated conditions. • EC ranged from 233.2 μS/cm (MW233) to 82,555 μS/cm (MW225) indicating fresh to saline conditions. • pH ranged from 3.28 (MW206) to 8.96 (MW054). pH results generally indicated acidic to slightly alkaline conditions. • ORP ranged from -199.8 mV (MW467) to 256 mV (MW206) indicating moderately to strongly reducing conditions. • Temperature ranged from 24.4°C (MW056) to 31.2°C (MW090).

5.1.2 Groundwater Analytical Results

Of the 81 groundwater wells sampled during the October 2022 dry season sampling event, 73 samples reported concentrations of PFAS compounds above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3, Appendix B**. 11 of the 23 groundwater samples collected from off-Base monitoring wells exceeded the drinking water guideline for PFOS+PFHxS. No exceedances for PFOA were reported.

Three exceedances of the ecological guideline for PFOS were reported for off-Base wells (MW218, MW221 and MW225). A total of 46 on-Base samples exceeded the ecological guideline for PFOS, and one on-Base sample exceeded the ecological guideline for PFOA (MW021).

Historical groundwater results are presented in **Table T8, Appendix B**. There were no first-time detections of PFOS, PFOA or PFHxS in any samples during this sampling event.

There were no new exceedances of the human health or ecological guidelines during the sampling. Groundwater sampling results were generally within the same order of magnitude as historically reported concentrations except for MW218 which was resampled in December 2022. The resampled result confirmed new historical maximum concentrations of PFOS, PFOS+PFHxS and PFOA in groundwater at this location.

5.2 Surface Water

5.2.1 Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water locations were accessible during the sampling event. Locations where surface water was not present are noted in Section 3.7 .
Field Observations	<p>Surface water from four locations, SW131, SW021, SW114 and SW117, had weak organic odours.</p> <p>Surface water at SW208 had a slight biological sheen on the surface. Algae was noted at SW013, SW131, SW102 and SW120.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations.</p> <p>Field observations are presented Table T4 in Appendix B.</p>
Water Quality Parameters	<p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below for the main sampling event completed in October 2022:</p> <ul style="list-style-type: none"> DO results ranged between 0.85 mg/L (SW117) and 13.18 mg/L (SW120) indicating poor to well oxygenated conditions. EC ranged from 625 µS/cm (SW123) to 56,549 µS/cm (SW208) fresh to saline conditions. Data transcription errors for EC readings were identified at SW108 and SW209 and were removed from the data set. pH ranged from 6.64 (SW106) to 9.38 (SW119). pH results indicated near neutral to moderately alkaline conditions. ORP ranged from 25.9 mV (SW010) to 198.3 mV (SW123) indicating neutral to moderately reducing conditions. Temperature ranged from 23.6°C (SW127) to 36°C (SW106).

5.2.2 PFAS Surface Water Analytical Results

The PFAS surface water analytical results from this sampling event are presented in **Table T5, Appendix B**. PFAS was detected in 32 of the 33 samples collected. PFOS concentrations in 13 samples exceeded the adopted ecological guidelines for PFOS. No samples exceeded the ecological or recreational guideline for PFOA. No new exceedances of PFOS, sum of PFOS+PFHxS or PFOA were reported. Sum of PFOS+PFHxS concentrations in three on-Base samples (SW123, SW126 and

SW131) and six off-Base samples (SW110, SW111, SW113, SW117, SW118, and SW119) exceeded the adopted recreational use guidelines (**Table T5, Appendix B**).

Historical surface water results are presented in **Table T9, Appendix B** and were all generally reported within the historical range of concentrations, with the exception of SW127 which recorded a new historical maximum concentration of 0.07 µg/L, previously 0.06 µg/L. This result is within the same order of magnitude as historical results and therefore no additional actions were triggered.

5.3 Sediment

5.3.1 Observations and Field Measurements

Table 14 Sediment Observations

Item	Observations
Access	SD126 was not able to be accessed for sampling due to the surface being covered by rocks and no sediment available for sampling.
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of sediment locations. Organic odours were detected at sample locations SD108, SD118 and SD107. Sediment logging and observation data are presented in Table T6, Appendix B .

5.3.2 PFAS Sediment Analytical Results

Of the 41 sediment samples collected, 38 samples reported concentrations of PFAS compounds above the laboratory LOR. There was one first-time detection of PFOA in an off-Base sample from SD120 (0.0002 mg/kg) and no first-time detections of PFOS+PFHxS in sediment. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results presented in **Table T10, Appendix B** were all generally reported within the historical range of concentrations, with the exception of SD014 (on-Base), SD125 (on-Base) and SD120. These locations were resampled in December 2022 and the following observations made:

- Resampled results for SD014 were within the historical range of concentrations and therefore a new historical maximum concentration is not confirmed;
- Resampled results for SD120 confirmed the new detection of PFOA at this location; and
- Resampled results for SD125 confirmed the new historical maximum concentrations at this location.

There are no endorsed human health or ecological guideline values available for sediment.

6.0 Summary and Next Sampling Event

6.1 Summary of Sampling Event

The routine OMP Dry Season Sampling Event was undertaken between 5 October and 19 October 2022 and included sampling from:

- 80 groundwater monitoring locations;
- 33 co-located surface water and sediment monitoring locations; and
- 8 sediment sampling locations.

Table 15 summarises the findings of the sampling event and the recommended actions.

Table 15 Summary of Sampling Event

Item	Comment	Recommended Actions
Access to sampling locations	Although accessible, there was insufficient water volume at MW301 and MW470 to sample during this sampling event. Although accessible, there was no water present at SW001, SW013, SW019, SW125, SW121, SW132, SW102 and SW107 and no sediment present at SD126.	Sampling event in April 2023 will capture future results.
<u>Analytical Results</u>	PFAS compounds were detected above laboratory LOR in 71 of the 81 groundwater samples, 32 of the 33 surface water samples and of the 44 sediment samples analysed in the Dry Season sampling round for 2022. The results were consistent with historical results except for those which were resampled. The fluctuation of concentrations of PFOS at SD125 warrant further investigation by the lead consultant.	Ongoing monitoring in accordance with the OMP. Lead consultant to verify potential PFAS sources contributing to concentrations of PFAS detected at SD125.
<u>First-time detections and new exceedances</u> of PFOS, sum of PFHxS+PFOS and PFOA	There were no first-time detections of PFOS, sum of PFHxS+PFOS or PFOA in surface water and groundwater samples. There were no first-time detections of PFOS or sum of PFHxS+PFOS in sediment. One first-time detection of PFOA was reported for off-Base sediment sample SD120. There were no new exceedances for PFOS of the 95% species protection ecological guidelines (HEPA, 2020). There were no new exceedances of the HEPA (2020) recreational use – surface water guidelines or HEPA (2020) drinking water – groundwater guidelines for sum of PFHxS+PFOS and PFOA (for off-Base samples only).	Ongoing monitoring in accordance with the OMP.

6.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for April 2023.

6.3 Upcoming Annual Interpretive Report

The next annual interpretive report for the period November 2021 to October 2022 is scheduled for May 2023.

7.0 References

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Appendix A

Figures



0 600 1,200 m

Legend

- Management Area
- Sub-Management Area
- Monitoring Area

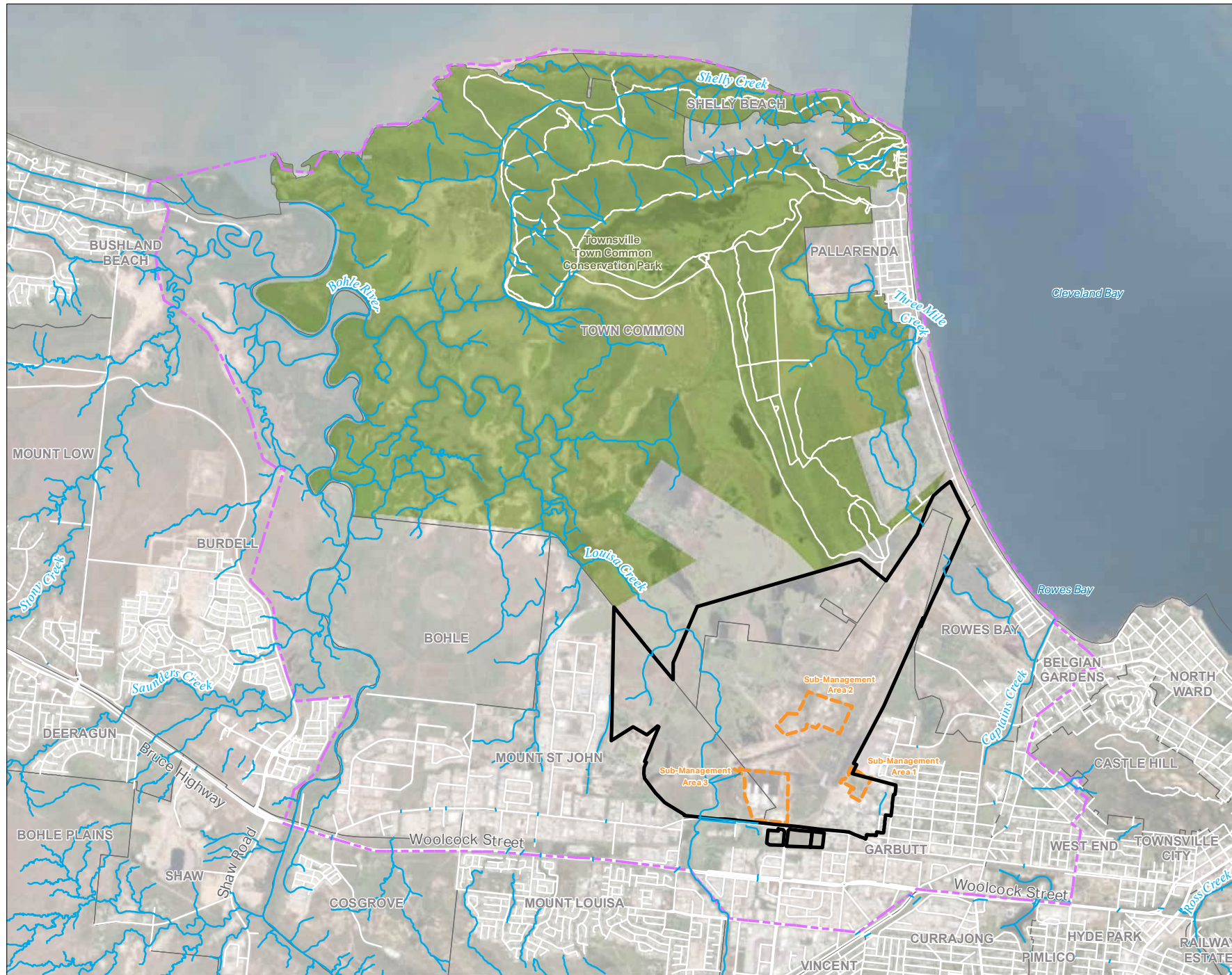


FIGURE 1:
RAAF BASE TOWNVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
Dry Season 2022 Factual Report,
October and December 2022
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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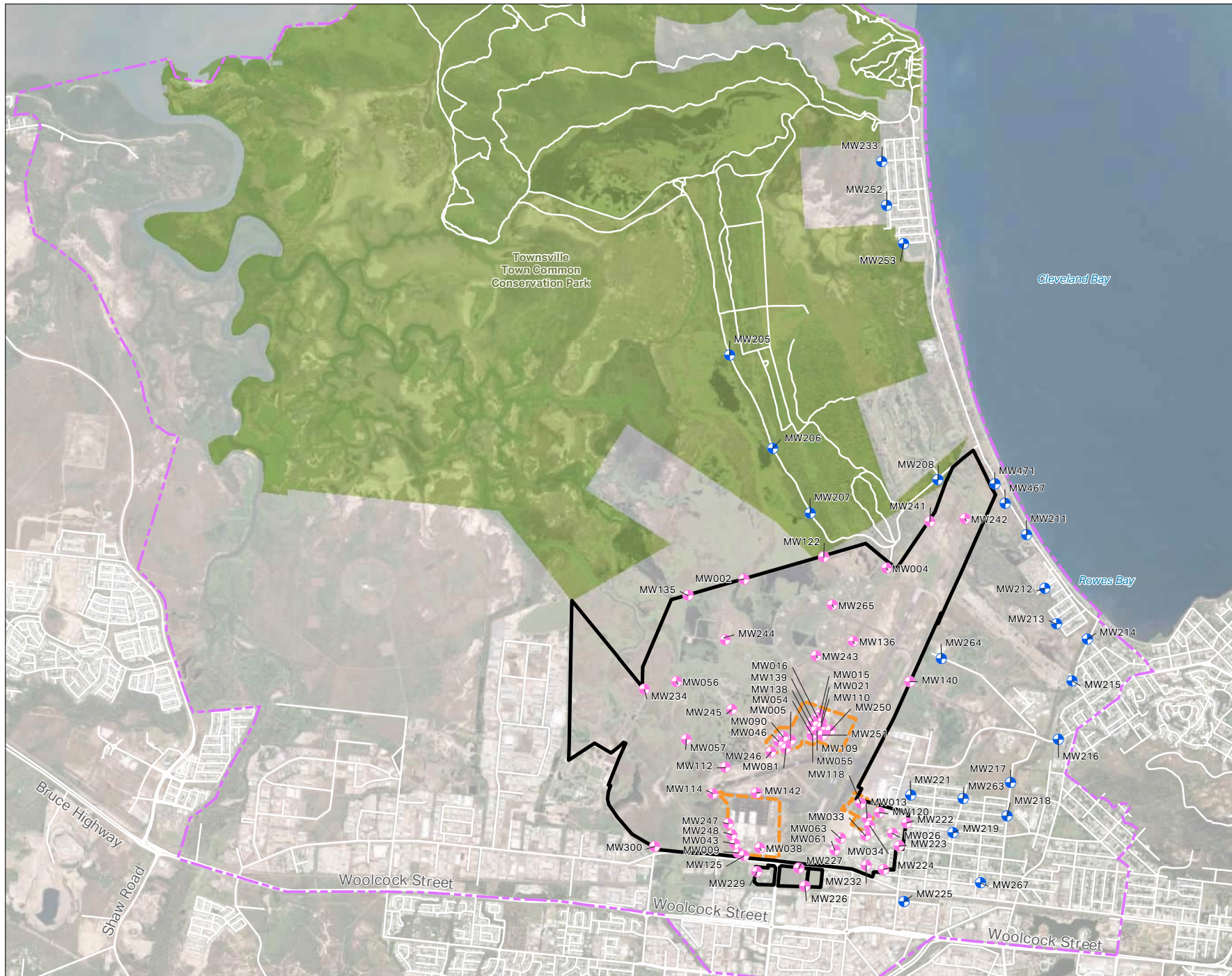
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Legend

- Management
- Sub-Management Area
- Monitoring
- On-base Monitoring Well
- Off-base Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

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PFAS OMP
REPORT NAME:
Dry Season 2022 Factual Report,
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CLIENT NAME:
Department of Defence
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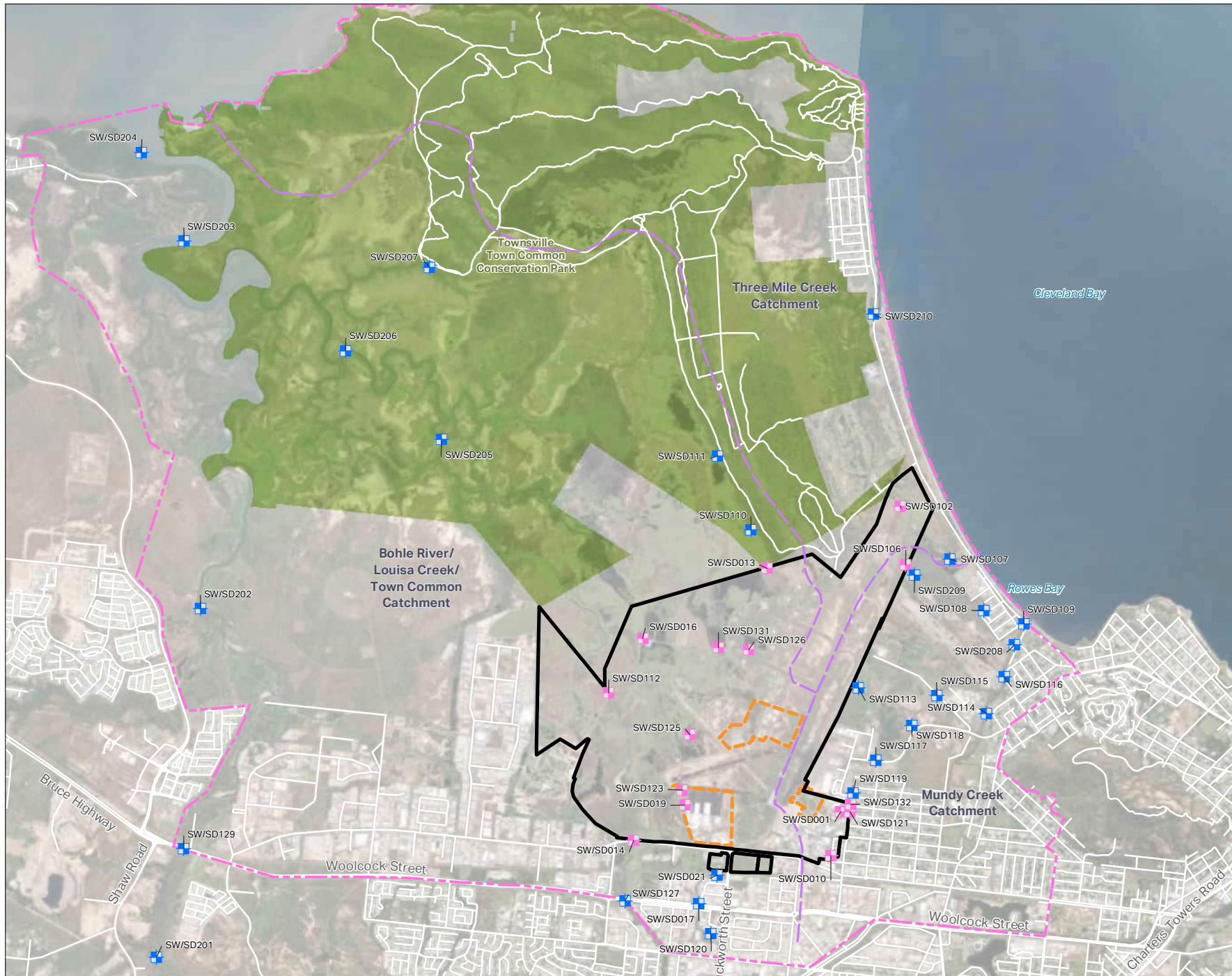
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Legend

- Management Area
- Catchment boundaries
- Sub-Management Area
- Monitoring Area
- Off-base Surface Water/Sediment Locations
- On-Base Surface Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

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PFAS OMP
REPORT NAME:
Dry Season 2022 Factual Report,
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Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Decommissioned Monitoring Well
- MW206 Omitted from inferred contours due to anomalous gauging field measurement
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction

Groundwater gauging data collected October and December 2022

FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS - DRY
SEASON

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AECOM



Legend

- Management Area
- Monitoring Area
- Sub-Management Area
- First-time detect of PFOS+PFHxS or PFOA

FIGURE 5: FIRST-TIME DETECTION OF PFOA ABOVE LOR IN SEDIMENT

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Appendix B

Analytical Tables

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	
0874	MW002	05/10/2022	11:40	4.630	0.566	1.866	1.300	
0874	MW004	05/10/2022	11:52	5.260	1.762	3.181	1.419	
0874	MW009	05/10/2022	12:53	4.630	1.034	3.634	2.600	
0874	MW016	05/10/2022	11:04	3.550	1.340	3.450	2.110	
0874	MW046	05/10/2022	10:43	4.140	1.470	2.844	1.374	
0874	MW055	05/10/2022	10:54	4.910	1.646	3.563	1.917	
0874	MW056	05/10/2022	11:23	5.430	1.506	2.955	1.449	
0874	MW063	05/10/2022	10:05	5.310	1.214	4.852	3.638	
0874	MW114	05/10/2022	10:53	5.340	1.315	3.325	2.010	
0874	MW116	Decommissioned. Unable to be gauged.						
0874	MW135	05/10/2022	11:36	5.820	1.415	2.275	0.860	
0874	MW136	05/10/2022	12:19	5.700	1.243	2.823	1.580	
0874	MW205	05/10/2022	15:56	4.980	1.880	3.239	1.359	
0874	MW206	05/10/2022	15:52	4.980	2.585	3.211	0.626	
0874	MW212	05/10/2022	15:30	4.070	1.427	2.835	1.408	
0874	MW214	05/10/2022	15:24	5.270	2.735	3.663	0.928	
0874	MW216	05/10/2022	15:16	4.340	1.526	3.544	2.018	
0874	MW217	05/10/2022	14:43	5.830	1.705	3.271	1.566	
0874	MW218	05/10/2022	14:40	5.230	1.320	2.908	1.588	
0874	MW221	05/10/2022	14:24	5.620	1.781	3.813	2.032	
0874	MW223	05/10/2022	08:54	4.728	1.476	5.337	3.861	
0874	MW225	05/10/2022	14:06	6.802	3.226	5.585	2.359	
0874	MW232	05/10/2022	09:30	4.570	1.720	5.767	4.047	
0874	MW241	05/10/2022	12:01	4.700	1.864	3.114	1.250	
0874	MW244	05/10/2022	12:36	4.130	1.857	2.270	0.413	
0874	MW247	05/10/2022	13:20	4.220	1.653	4.399	2.746	
0874	MW300	05/10/2022	08:33	6.700	1.955	5.072	3.117	

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

Property ID	Location ID	HydraSleeve™ Deployment Date	Screen Interval (mbgl)	HydraSleeve™ Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen			
Sub-Management Area One																						
0874	MW013	13/10/2022	NA	3.56	19/10/2022	4.87	1.545	4.708	3.163	Good	0.73	11950	6.09	5.8	26.9	Low	Clear	No odour	No sheen			
0874	MW116									Decommissioned												
0874	MW118	11/10/2022	NA	3.30	12/10/2022	4.57	1.280	4.381	3.101	Good	0.2	985	7.76	-119.2	27.2	Medium	Light Brown	Distinct Organic Odour	No sheen			
0874	MW126									Decommissioned												
0874	MW129									Decommissioned												
Sub-Management Area Two																						
0874	MW005	10/10/2022	NA	6.16	11/10/2022	5.72	2.272	3.922	1.650	Good	1.51	70485	7.36	130.1	28.4	Turbid	Light Brown	No odour	No sheen			
0874	MW015	10/10/2022	NA	2.10	11/10/2022	3.40	1.370	3.343	1.973	Good	1.03	5748	7.93	99.5	27	-	Clear	No odour	No sheen			
0874	MW016	05/10/2022	NA	2.25	10/10/2022	3.55	1.352	3.450	2.098	Good	1.08	6922	7.57	-90.2	29.6	-	Clear	Weak Organic Odour	No sheen			
0874	MW021	10/10/2022	NA	1.95	11/10/2022	3.25	1.320	3.301	1.981	Good	0.57	11409	7.6	85.6	28.8	Low	Clear	No odour	No sheen			
0874	MW046	05/10/2022	NA	3.12	10/10/2022	4.42	1.190	2.844	1.654	Good	0.32	9186	8.14	93.2	26.1	Low	Clear	No odour	No sheen			
0874	MW054	10/10/2022	NA	4.32	11/10/2022	5.62	1.612	3.669	2.057	Good	0.83	3587	8.96	86.8	28.4	-	Clear	No odour	No sheen			
0874	MW055	05/10/2022	NA	3.61	10/10/2022	4.92	1.660	3.563	1.903	Good	0.59	8301	8.39	-108.5	28.9	-	Clear	Weak Organic Odour	No sheen			
0874	MW081	10/10/2022	NA	3.77	11/10/2022	4.95	1.270	3.408	2.138	Good	0.53	15895	7.98	97.4	28.5	Medium	Light Brown	No odour	No sheen			
0874	MW090	20/04/2022	NA	1.65	11/10/2022	2.88	0.720	3.303	2.583	Good	1.09	1598	8.41	95	31.2	Low	Light Brown	No odour	No sheen			
0874	MW109	10/10/2022	NA	4.53	11/10/2022	5.84	1.565	3.255	1.690	Good	0.59	34728	7.53	114.7	25.6	Low	Light Brown	No odour	No sheen			
0874	MW110	11/10/2022	NA	3.59	12/10/2022	4.68	1.102	2.853	1.751	Good	0.6	11148	7.52	83.3	27.5	Low	Light Yellow	No odour	No sheen			
0874	MW138	11/10/2022	3 - 6	4.69	12/10/2022	5.98	1.280	2.903	1.623	Good	0.27	31502	7.53	-30.9	26.7	Low	Clear	No odour	No sheen			
0874	MW139	11/10/2022	3 - 6	4.72	12/10/2022	5.99	1.700	3.443	1.743	Good	0.86	27497	7.69	82	28.2	Clear	Clear	No odour	No sheen			
0874	MW246	10/10/2022	1 - 7	6.07	11/10/2022	7.16	1.655	3.901	2.246	Good	Insufficient water for parameters					Low	Clear	No odour	No sheen			
0874	MW250	11/10/2022	1 - 6	3.90	12/10/2022	5.02	2.105	3.916	1.811	Good	0.82	5067	7.63	124.1	25.3	Turbid	Light Brown	No odour	No sheen			
0874	MW251	20/04/2022	0.7 - 6.7	5.82	11/10/2022	7.60	1.640	3.440	1.800	Good	0.34	36585	7.12	124.9	27.1	Turbid	Light Brown	No odour	No sheen			
Sub-Management Area Three																						
0874	MW009	05/10/2022	NA	3.38	10/10/2022	4.64	1.034	3.634	2.600	Good	0.56	23334	6.53	169.9	25.5	Low	Clear	No odour	No sheen			
0874	MW038	11/04/2022	NA	3.33	11/10/2022	5.63	0.800	4.734	3.934	Good	0.68	5336	8.15	81.9	29.6	Low	Clear	No odour	No sheen			
0874	MW043	10/10/2022	NA	4.48	11/10/2022	5.73	1.180	3.613	2.433	Good	0.78	51159	7.18	123.5	27.3	Low	Light Brown	No odour	No sheen			
0874	MW114	11/04/2022	NA	3.90	11/10/2022	5.17	1.325	3.325	2.000	Good	0.53	15291	6.67	33.3	26.2	Turbid	Brown	No odour	No sheen			
0874	MW125	13/04/2022	5 - 11	8.62	11/10/2022	9.72	1.900	4.617	2.717	Good	0.65	68388	6.33	117.4	28.8	Turbid	Light Brown	No odour	No sheen			
0874	MW142	11/10/2022	3 - 6	4.80	12/10/2022	6.11	1.025	3.169	2.144	Good	2.44	6237	7.4	142.8	26.7	Low	Clear	No odour	No sheen			
0874	MW247	11/04/2022	0.8 - 3.5	2.84	10/10/2022	4.14	1.740	4.399	2.659	Good	0.87	1719	7.31	144.5	26.4	Medium	Orange	No odour	No sheen			
0874	MW248	13/04/2022	1 - 4	2.51	11/10/2022	3.61	1.500	3.943	2.443	Good	0.62	16010	7.66	104.9	27.1	Medium	Light Brown	No odour	No sheen			
On-Base																						
0874	MW002	05/10/2022	NA	3.37	10/10/2022	4.68	0.566	1.866	1.300	Good	0.42	3282	7.64	-71.6	25.6	Low	Light Brown	Weak Organic Odour	No sheen			
0874	MW004	05/10/2022	NA	3.94	10/10/2022	5.23	1.805	3.181	1.376	Good	No field parameters										No odour	No sheen
0874	MW026	12/10/2022	NA	3.56	13/10/2022	4.89	1.742	5.164	3.422	Good	1.79	677	7.57	116.6	28.8	Medium	Orange	No odour	No sheen			
0874	MW033	12/10/2022	NA	2.65	13/10/2022	3.93	2.352	5.860	3.508	Good	0.85	1290	8.28	111.3	30.9	Medium	Light Brown	Weak Organic Odour	No sheen			
0874	MW034	12/10/2022	NA	2.55	13/10/2022	3.85	2.002	5.434	3.432	Good	0.45	16538	6.99	138.1	30	Medium	Light Brown	No odour	No sheen			
0874	MW056	05/10/2022	NA	4.16	10/10/2022	5.45	1.445	2.955	1.510	Good	0.56	32862	6.42	-52.5	24.4	Low	Clear	Distinct Organic Odour	No sheen			
0874	MW057	10/10/2022	NA	4.98	11/10/2022	6.27	1.455	3.114	1.659	Good	0.64	39291	6.87	92.6	24.7	Low	Light Brown	No odour	No sheen			
0874	MW061	12/10/2022	NA	4.18	13/10/2022	5.47	1.365	4.668	3.303	Good	1.4	3093	7.82	127.8	29.3	Clear	Clear	No odour	No sheen			
0874	MW063	05/10/2022	NA	4.01	12/10/2022	5.32	1.275	4.852	3.577	Good	0.31	9220	7.73	85.8	28.7	Clear	Clear	No odour	No sheen			
0874	MW112	11/04/2022	NA	4.10	12/10/2022	5.40	1.540	3.300	1.760	Good	0.49	23652	6.5	54.7	26.8	Turbid	Orange	No odour	No sheen			
0874	MW120	12/10/2022	NA	4.54	13/10/2022	5.83	1.335	4.549	3.214	Good	1.44	7614	7.11	131	28.3	Low	Light Brown	No odour	No sheen			
0874	MW122	11/04/2022	1.5 - 4.5	5.13	11/10/2022	6.38	1.310	2.451	1.141	Good	0.62	30406	6.78	103.3	26.7	Low	Clear	No odour	No sheen			
0874	MW135	05/10/2022	1.5 - 4.5	4.59	10/10/2022	5.68	1.445	2.275	0.830	Good	0.61	43354	6.67	-113.4	26.9	Low	Clear	Distinct Organic Odour	No sheen			
0874	MW136	05/10/2022	NA	4.55	11/10/2022	5.78	1.260	2.823	1.563	Good	0.84	1809	8.35	126.8	26.8	Low	Light Brown	No odour	No sheen			
0874	MW140	11/10/2022	NA	9.88	12/10/2022	12.33	1.350	2.728	1.378	Good	0.26	55871	6.23	138.4	25.8	Low	Light Grey	No odour	No sheen			
0874	MW222	11/04/2022	1.2 - 8	6.55	12/10/2022	NR	1.060	4.568	3.508	Good	0.37	6668	7.28	60.6	27.2	Turbid	Light Brown	No odour	No sheen			
0874	MW223	11/04/2022	1.5 - 4.5	3.44	05/10/2022	4.78	1.476	5.337	3.861	Good	2.92	2380	6.87	153.4	27.1	Low	Light Brown	No odour	No sheen			
0874	MW224	11/04/2022	2.2 - 8.2	6.66	12/10/2022	7.95	1.495	5.001	3.506	Good	1.08	16092	7.6	92.8	26.8	Turbid	Light Brown	No odour	No sheen			
0874	MW226	11/04/2022	1.5 - 6.5	5.42	19/10/2022	6.87	1.445	5.172	3.727	Good	0.35	13912	6.69	-55.4	25.6	Medium	Yellow/Brown	Weak Organic Odour	No sheen			
0874	MW227	11/04/2022	1 - 8	6.60	12/10/2022	7.88	1.360	4.693	3.333	Good	0.19	22192	7.25	-66.7	27.6	Low	Clear	Weak Organic Odour	No sheen			
0874	MW229	11/04/2022	1 - 9.7	8.63	12/10/2022	10.06	2.245	5.387	3.142	Good	0.36	30690	6.99	97.5	27.8	Turbid	Light Brown	No odour	No sheen			
0874	MW232	11/04/2022	1 - 5	3.64	05/10/2022	4.85	2.965	5.767	2.802	Good	1.4	2596	7.44	157.1	26.3	Medium	Light Brown	No odour	No sheen			
0874	MW234	12/04/2022	1 - 6	6.42	12/10/2022	7.35	2.000	3.216	1.216	Good	0.34	53507	7.1	5.6	25.3	Turbid	Light Brown	Weak Organic Odour	No sheen			
0874	MW241	11/04/2022	1 - 4	3.38	10/10/2022	4.68	1.910	3.114	1.204	Good	0.59	10005	7.09	100.1	26.7	Medium	Light Brown	No odour	No sheen			
0874	MW242	11/04/2022	1 - 4	3.51	11/10/2022	4.82	1.865	3.081	1.216	Good	0.57	11347	7.58	94.3	27.7	Medium	Clear	No odour	No sheen			
0874	MW243	11/04/2022	1 - 7	6.35	11/10/2022	7.61	1.710	3.126	1.416	Good	0.71	61993	6.92	192.5	26.3	Low	Light Brown	No odour	No sheen			
0874	MW244	05/10/2022	0.7 - 4.7	2.72	11/10/2022	4.08	1.895	2.27	0.375	Good	0.43	956	7.3	-135.5	26.2	Low	Clear	Distinct Organic Odour	No sheen			
0874	MW245	11/10/2022	2.2 - 4.2	3.72	12/10/2022	5.00	1.580	3.295	1.715	Good	0.35	4129	7.22	-0.9	26.5	Medium	Orange	No odour	No sheen			
0874	MW255	12/04/2022	1.5 - 7.5	3.67	12/10/2022	8.27	1.750	3.121	1.371	Good	No field parameters										No odour	No sheen
0874	MW265	11/04/2022	1.5 - 5	4.50	11/10/2022	5.80	2.065															

Property ID	Location ID	HydraSleeve™ Deployment Date	Screen Interval (mbgl)	HydraSleeve™ Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen
Off-Base																			
0874	MW205	14/04/2022	1.2 - 4.2	3.69	08/10/2022	4.96	1.745	3.239	1.494	Good	0.82	18787	6.25	-32.3	24.9	Medium	Brown	No odour	No sheen
0874	MW206	14/04/2022	1 - 4	3.10	06/10/2022	4.43	1.862	3.211	1.349	Good	1.01	9138	3.28	256	25.5	Medium	Brown	No odour	No sheen
0874	MW207	11/04/2022	2 - 6	4.97	06/10/2022	6.23	NA	3.825	NA	Good	No field parameters								
0874	MW208	11/04/2022	1 - 4	3.46	06/10/2022	4.75	2.800	4.060	1.260	Good	7.4	28905	4.75	101.4	27	Low	Clear	No odour	No sheen
0874	MW211	11/04/2022	2 - 6	3.94	08/10/2022	5.05	3.670	4.990	1.320	Good	0.8	965	7.81	-123.3	26.4	Low	Light Brown	No odour	No sheen
0874	MW212	11/04/2022	1 - 4	2.80	06/10/2022	4.11	1.430	2.835	1.405	Good	0.89	2441	7.1	-23.1	28.2	Turbid	Brown	No odour	No sheen
0874	MW213	11/04/2022	1 - 4.5	3.86	08/10/2022	4.64	2.495	3.762	1.267	Good	0.51	8971	6.89	-27.9	27.8	Turbid	Red Orange	Weak Organic Odour	No sheen
0874	MW214	11/04/2022	1 - 5	3.60	06/10/2022	4.93	2.650	3.663	1.013	Good	2.36	55317	6.83	168.6	27.4	Turbid	Brown	No odour	No sheen
0874	MW215	11/04/2022	1 - 7	5.25	06/10/2022	6.55	2.605	3.269	0.664	Good	1.36	1603	6.63	144.6	27.4	Medium	Brown	No odour	No sheen
0874	MW216	11/04/2022	1 - 4.5	3.02	06/10/2022	4.28	1.535	3.544	2.009	Good	0.62	498.7	6.68	147.1	28.3	Medium	Light Brown	No odour	No sheen
0874	MW217	11/04/2022	2 - 6	4.48	05/10/2022	4.80	1.705	3.271	1.566	Good	2.29	13814	7.53	81.6	27.5	Turbid	Grey	No odour	No sheen
0874	MW218	11/04/2022	2 - 6	3.93	06/10/2022	5.17	1.330	2.908	1.578	Good	5.5	29932	6.61	174.8	27.3	Medium	Light Brown	No odour	No sheen
0874	MW219	11/04/2022	3 - 11	8.44	19/10/2022	6.03	2.150	4.408	2.258	Good	0.94	7613	6.72	130.1	27.7	Turbid	Light Brown	No odour	No sheen
0874	MW221	11/04/2022	1 - 6	4.26	05/10/2022	5.43	1.781	3.813	2.032	Good	0.65	11508	7.35	35.5	29.1	Clear	Clear	No odour	No sheen
0874	MW225	11/04/2022	1 - 7	5.54	19/10/2022	6.82	2.250	5.585	3.335	Good	0.52	82555	4.69	89.5	27.6	Medium	Light Brown	Weak Organic Odour	No sheen
0874	MW233	11/04/2022	1.5 - 3.9	2.73	06/10/2022	4.36	1.995	2.900	0.905	Good	2.82	233.2	8.31	89.2	28.6	Low	Light Grey	No odour	No sheen
0874	MW252	11/04/2022	1.5 - 4	2.72	06/10/2022	4.10	2.222	3.038	0.816	Good	0.92	887	7.35	90.6	26.9	Medium	Orange	No odour	No sheen
0874	MW253	11/04/2022	1.5 - 4	3.12	08/10/2022	4.42	2.400	4.100	0.781	Good	0.83	7815	7.31	-105.2	27.4	Turbid	Dark Grey	No odour	No sheen
0874	MW263	11/04/2022	1.5 - 4	2.21	06/10/2022	3.57	1.510	3.939	2.429	Good	0.76	453	6.99	148.5	29.2	Medium	Orange	No odour	No sheen
0874	MW264	11/04/2022	1 - 5.6	4.23	08/10/2022	4.04	1.902	3.190	1.288	Good	0.46	21312	6.77	-10.7	27.6	Turbid	Light Brown	Distinct Organic Odour	No sheen
0874	MW267	11/04/2022	1.5 - 5	3.47	08/10/2022	4.75	2.375	4.134	1.759	Good	0.29	5132	7.43	-129.6	25.7	Turbid	Light Brown	Distinct Organic Odour	No sheen
0874	MW301	11/04/2022	2 - 5	3.62	08/10/2022	3.85	NA	3.940	NA	Good	Not sampled - Dry								
0874	MW467	14/04/2022	NA	3.32	06/10/2022	4.46	2.120	3.494	1.374	Good	0.59	535	7.46	-199.8	27.2	Clear	Clear	Weak Organic Odour	No sheen
0874	MW471	06/10/2022	NA	3.51	08/10/2022	4.55	2.862	NA	NA	Good	Insufficient water for parameters								

NA - Well construction details are not available in ESdat for some wells

NR - Not recorded

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

DO - Dissolved Oxygen

EC - Electrical Conductivity

Redox - Reduction Oxidation Potential

Temp - Temperature

mg/L - milligrams per litre

µS/cm - microsiemens per centimetre

mV - millivolt

°C - degrees Celsius

"-" denotes no data collected

Property ID	Sample ID	Field ID	Sample Date	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base													
Bohle/Louisa Creek/Town Common													
0874	SW013	0874_SW013_221007	7/10/2022	Insufficient water for water quality parameters									Algae on surface.
0874	SW014	0874_SW014_221007	7/10/2022	Insufficient water for water quality parameters									Still water
0874	SW016	0874_SW016_221017	17/10/2022	Insufficient water for water quality parameters									Dry
0874	SW019	0874_SW019_221017	17/10/2022	Water volume insufficient. Not sampled.									Insufficient water for sampling
0874	SW112	0874_SW112_221007	7/10/2022	4.67	1066	7.38	166.9	26.5	Clear	Clear	Nil	No	Still water
0874	SW123	0874_SW123_221017	17/10/2022	1.56	625	6.77	198.3	28.0	Low	Yellowish Brown	Nil	No	Still water
0874	SW125	0874_SW125_221017	17/10/2022	Insufficient water for water quality parameters									Insufficient water for sampling
0874	SW126	0874_SW126_221019	19/10/2022	6.22	776	7.99	94.3	28.2	Clear	Clear	Nil	No	Stagnant, still flow. Lillies on water's surface. Long grass around water's edge.
0874	SW131	0874_SW131_221019	19/10/2022	2.57	1230	7.51	110.8	26.5	Low	Yellow	Organic (weak)	No	Stagnant, still flow. Algae on water's surface. Long grass around water's edge.
Mundy Creek Catchment													
0874	SW001	0874_SW001_221017	17/10/2022	Water volume insufficient. Not sampled.									Stagnant water. Insufficeint volume for sampling
0874	SW010	0874_SW010_221017	17/10/2022	1.57	5187	7.70	25.9	29.7	Low	Yellow	Nil	No	Still, vegetation growing in water body.
0874	SW106	0874_SW106_221017	17/10/2022	2.92	-	6.64	183.6	36.0	Low	Clear	Nil	No	Still water, yellow. Mangroves.
0874	SW121	0874_SW121_221017	17/10/2022	Dry. Not sampled.									Thick vegetation growing where water would flow.
0874	SW132	0874_SW132_221017	17/10/2022	Dry. Not sampled.									Dry
Three Mile Creek													
0874	SW102	0874_SW102_221017	17/10/2022	Water volume insufficient. Not sampled.									Stagnant. Algae on water's surface.
Off-Base													
Bohle/Louisa Creek/Town Common													
0874	SW017	0874_SW017_221007	7/10/2022	4.32	713	8.65	154.2	26.6	Low	Pale Yellow	Nil	No	Grass cutting in progress near sample location.
0874	SW021	0874_SW021_221007	7/10/2022	0.86	698	8.68	128.3	25.1	Turbid	Brown	Organic (weak)	No	Still water
0874	SW110	0874_SW110_221014	14/10/2022	2.88	2110	8.85	95.3	29.9	Low	Yellow	Nil	No	Organic materials present e.g. grass, sediment, nuts.
0874	SW111	0874_SW111_221014	14/10/2022	3.05	1566	8.45	105.1	33.4	Low	Yellow	Nil	No	Still flow, organic material, wetland.
0874	SW120	0874_SW120_221007	7/10/2022	13.18	2631	8.69	174.4	27.8	Low	-	Nil	No	Significant algae present in water body.
0874	SW127	0874_SW127_221007	7/10/2022	1.63	1559	8.63	148.3	23.6	Low	Clear	Nil	No	Still water
0874	SW129	0874_SW129_221007	7/10/2022	3.72	28217	7.60	188.3	25.4	Low	Brown	Nil	No	Still water
0874	SW201	0874_SW201_221014	14/10/2022	5.37	9095	6.90	135.4	28.4	Clear	Clear	Nil	No	Medium flow, algae on rocks under water, fish.
0874	SW202	0874_SW202_221018	18/10/2022	3.30	43232	7.16	149.7	28.9	Low	Light Brown	Salty/Mangrove (weak)	No	Slight flow, Mangroves along river bed.
0874	SW203	0874_SW203_221018	18/10/2022	2.81	47815	8.4	122.8	28.3	Low	Light Brown	Nil	No	Slight flow, Mangroves along river bed.
0874	SW204	0874_SW204_221018	18/10/2022	3.39	48253	8.61	118.7	27.8	Low	Light Brown	Nil	No	Slight flow, Mangroves along river bed, mouth opens to ocean.
0874	SW205	0874_SW205_221018	18/10/2022	1.73	28115	7.77	120.4	27.8	Low	Light Brown	Salty/Mangrove (weak)	No	Slight flow, Mangroves along river bed.
0874	SW206	0874_SW206_221018	18/10/2022	2.40	39595	7.99	123.6	28.2	Clear	Clear	Nil	No	Slight flow, Mangroves along river bed.
0874	SW207	0874_SW207_221018	18/10/2022	2.54	43211	8.24	125.3	27.3	Low	Light Brown	Nil	No	Slight flow, Mangroves along river bed.
Mundy Creek Catchment													
0874	SW108	0874_SW108_221014	14/10/2022	5.73	-	9.05	121.1	33.5	Low	Light Yellow	Nil	No	Slight flow, human barefoot foot tracks into water body. Mangroves along river bed.
0874	SW109	0874_SW109_221007	7/10/2022	5.88	48158	8.55	158.3	28.9	Low	Clear	Nil	No	Still water
0874	SW113	0874_SW113_221007	7/10/2022	6.40	5953	8.71	159.8	28.7	Low	Pale Yellow	Nil	No	Still water
0874	SW114	0874_SW114_221007	7/10/2022	1.26	14003	7.92	106.5	27.9	Low	Pale Yellow	Organic (weak)	No	Still water
0874	SW115	0874_SW115_221007	7/10/2022	4.60	40214	8.23	180.9	31.5	Low	Brown	Nil	No	Still water
0874	SW116	0874_SW116_221014	14/10/2022	1.83	39708	7.66	127.9	25.8	Low	Clear	Nil	Yes	Still flow, stagnant, organic-like sheen.
0874	SW117	0874_SW117_221007	7/10/2022	0.85	2123	8.8	157.2	24.4	Low	Clear	Organic (weak)	No	Still water
0874	SW118	0874_SW118_221007	7/10/2022	4.39	22979	8.18	181.2	28.0	Low	Brown	Nil	No	Still water
0874	SW119	0874_SW119_221007	7/10/2022	13.12	3706	9.38	154.4	31.1	Low	Pale Yellow	Nil	No	Stormwater drain water.
0874	SW208	0874_SW208_221014	14/10/2022	2.92	56549	8.22	125.5	27.8	Medium	Light Brown	Nil	Yes	Slight flow, biosheen. Mangroves along river bed.
0874	SW209	0874_SW209_221007	7/10/2022	5.98	-	7.99	184.1	34.3	Low	Brown	Nil	No	Still water
Three Mile Creek													
0874	SW107	0874_SW107_221014	14/10/2022	Dry. Not sampled.									Dry
0874	SW210	0874_SW210_221014	14/10/2022	3.27	55739	8.16	130.4	27.2	Low	Clear	Nil	No	Medium flow, possible crab net downstream. Mangroves along river bed.

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µs/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celsius
 "-" denotes no data collected

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle/Louisa Creek/Town Common				
0874	SD013	17/10/2022	Silty CLAY, dark brown, high organic material content, dry.	Earthy odour
0874	SD014	7/10/2022	SAND, fine grained, poorly graded, wet.	No odour
0874	SD016	17/10/2022	Silty CLAY, dark brown, high plasticity, with organic material.	No odour
0874	SD019	17/10/2022	CLAY, high plasticity, light brown, with traces of cobbles and gravels, with organic material (roots), dry.+	No odour
0874	SD112	7/10/2022	Sandy CLAY, soft, light grey, low plasticity, fine to medium grained sand, well graded, wet.	No odour
0874	SD123	17/10/2022	Sandy CLAY, grey to brown, high plasticity, saturated. Sampled close to culvert.	No odour
0874	SD125	17/10/2022	CLAY, light and dark brown, traces of gravel, trace organic material, dry. Sampled away from surface water due to restricted access.	No odour
0874	SD126	19/10/2022	NOT SAMPLED. Surface too rocky. No accessible sediment for sample.	No odour
0874	SD131	19/10/2022	CLAY, soft, dark brown/black, medium plasticity, with organic material (roots), wet.	No odour
Mundy Creek Catchment				
0874	SD001	17/10/2022	Gravelly CLAY, light brown, trace angular gravels and cobbles, dry. Sampled from top of culvert due to hard/compact surface.	No odour
0874	SD010	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), saturated. Sampled from culvert.	No odour
0874	SD106	17/10/2022	Silty CLAY, black, trace organic material. Sampled on bank under Mangroves.	Salty/Mangrove odour.
0874	SD121	17/10/2022	Silty CLAY, black, high plasticity, with organic materials (roots), moist. Sampled under grass.	No odour
0874	SD132	17/10/2022	Silty SAND, dark brown, with organic materials (roots), dry. Sampled from culvert.	No odour
Three Mile Creek				
0874	SD102	17/10/2022	Silty CLAY, black to brown, high plasticity, fine grained sand, with organic material. Sampled from culvert.	Fish/Marine odour.
Off-Base				
Bohle/Louisa Creek/Town Common				
0874	SD017	7/10/2022	Sandy GRAVEL, medium to large grained, poorly graded, some organic material (roots and plants), wet. Area adjacent to sample recently mowed, lots of loose grass.	No odour
0874	SD021	7/10/2022	Silty SAND, dark brown, low plasticity, fine grained, lots of organic material (roots), wet.	No odour
0874	SD110	14/10/2022	SAND, dark and light brown, fine grained, trace gravel. Sample taken from across surface water due to restricted access.	No odour
0874	SD111	14/10/2022	Silty CLAY, high plasticity, fine grained, trace organic material.	No odour
0874	SD120	7/10/2022	Sandy GRAVEL, dark brown, medium grain, poorly graded, with organic material (roots and plants), moist.	No odour
0874	SD127	7/10/2022	Silty SAND, soft, dark brown, poorly graded, with organic material (roots and leaves), wet.	No odour
0874	SD129	7/10/2022	SAND, dark brown, medium grained, poorly graded, with silt, wet.	No odour
0874	SD201	14/10/2022	SAND, pale yellow-brown, fine grained, with organic material, moist.	No odour
0874	SD202	18/10/2022	Silty CLAY, soft, dark brown, high plasticity with trace sands, saturated. Sampled on bank under Mangroves.	Salty/Mangrove odour.
0874	SD203	18/10/2022	Silty CLAY, soft, dark brown with some black with orange mottlings, high plasticity, trace sands, with organic material (roots), moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
0874	SD204	18/10/2022	Silty CLAY, soft, dark brown and black, high plasticity, trace sands, with organic material (roots) moist. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
0874	SD205	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, organic material (shells, biota), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
0874	SD206	18/10/2022	Silty CLAY, soft, dark brown, high plasticity, trace sand, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
0874	SD207	18/10/2022	Silty CLAY, soft, dark brown to black, high plasticity, with trace sands, with organic material (roots), saturated. Sampled on river bed under Mangroves.	Salty/Mangrove odour.
Mundy Creek Catchment				
0874	SD108	14/10/2022	Silty CLAY, dark grey to dark brown, high plasticity, fine grained. Sampled on bank under Mangroves.	Organic (mud) odour.
0874	SD109	7/10/2022	SILT, brown, medium plasticity, with organic material (some marine shell), wet.	No odour
0874	SD113	7/10/2022	Sandy CLAY, dark brown, fine grained, poorly graded, with organic materials (roots and algae), wet.	No odour
0874	SD114	7/10/2022	SILT, dark brown, low plasticity, wet.	No odour
0874	SD115	7/10/2022	Silty CLAY, brown, medium plasticity, wet.	No odour
0874	SD116	14/10/2022	Silty CLAY, brown, high plasticity, organic materials (some shell). Sampled on bank under Mangroves.	No odour
0874	SD117	7/10/2022	Silty SAND, dark brown, fine grained, poorly graded, organic material (some roots), dry.	No odour
0874	SD118	7/10/2022	Silty CLAY, dark brown, fine grained, wet.	Salty/Organic odour
0874	SD119	7/10/2022	SAND, pale brown, poorly graded, dry. Sampled above the concrete culvert airside.	No odour
0874	SD208	14/10/2022	Silty CLAY, dark brown, high plasticity, trace sand and gravels. Sampled on bank under Mangroves.	No odour
0874	SD209	7/10/2022	SILT, dark brown to black, low plasticity, wet.	No odour
Three Mile Creek				
0874	SD107	14/10/2022	CLAY, black, high plasticity, moist. Animal prints across sediment surface.	Salty/Organic odour.
0874	SD210	14/10/2022	Silty CLAY, dark brown, high plasticity, trace organics.	No odour

"-" denotes that no notes were observed for this sample

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOA	EfFOAA	EfFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																												0.13	220			
PFAS NEMP 2020 Drinking Water																													0.56	0.07		
Location ID	Sample Date																															
Sub-Management Area One																																
MW013	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951	
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189	
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266	
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485	
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554	
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303	
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426	
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413	
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264	
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376	
	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	248	16.2	321	474	
	22/04/2022	<0.5	4.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.8	10.6	<0.5	<0.5	<0.5	12.2	11.2	66.9	83	13.7	20.6	<1.25	<0.5	<0.5	<0.5	305	19.6	388	568	
	19/10/2022	<0.08	4.57	<0.08	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	18.8	45	<0.08	<0.08	<0.08	11.8	17	66.4	84.3	12.4	19.4	<0.2	<0.08	<0.08	<0.08	59.9	18.4	144	358	
MW116	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261	
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214	408	
	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103	
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117	
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258	
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109	
	11/09/2020	<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337	
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3	
	11/10/2021	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	72.5	7.3	115	187	
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	7.83	2.7	<0.02	<0.02	<0.02	2.52	1.31	15.1	22.9	3.32	6.74	<0.06	<0.02	<0.02	<0.02	18.7	3.58	41.6	84.7	
			Decommissioned																													
MW118	27/07/2017	<0.05	0.25	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98	
	28/07/2017	<0.05	0.24	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53	
	17/08/2017	<0.05	0.28	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08	
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	0.232	0.02	0.454	0.926		
	2/05/2019	0.001	0.888	0.081	<0.001	<0.001	<0.0005	<0.001	0.0005	<0.001	<0.0005	<0.001																				

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOA	EfFOAA	EfFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW129	17/08/2017	<0.05	1.31	0.19	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	1.41	1.1	0.04	0.11	<0.02	0.85	0.73	3.73	7.39	2.27	1.24	<0.05	<0.02	<0.02	0.11	34.4	2.82	41.8	57.9
	17/04/2018	<0.05	1.11	0.87	<0.05	<0.05	<0.02	<0.05	0.38	<0.05	<0.02	<0.05	1.2	2	0.09	1.06	<0.02	0.74	0.6	2.82	6.22	2.74	0.93	<0.05	<0.02	0.02	0.16	45.8	2.05	52	68.8
	18/12/2018	0.02	6.92	0.666	0.038	<0.050	<0.0200	<0.050	0.184	<0.050	<0.0200	<0.050	4.12	0.54	0.094	0.438	<0.0200	2.35	2.06	10.3	18.3	3.9	3.54	<0.0500	<0.0200	0.032	0.164	56.1	5.05	74.4	115
	15/10/2019	<0.05	8.92	0.09	<0.05	<0.05	<0.02	<0.05	0.15	<0.05	<0.02	<0.05	6.34	3.9	0.03	0.14	<0.02	3.64	1.16	19.8	24.8	7.04	4.67	<0.05	<0.02	<0.02	0.14	24.9	4.93	49.7	111
	29/04/2020	<0.05	3.01	0.2	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.04	2.1	<0.05	<0.05	<0.05	2.82	1.59	8.86	22.4	3.84	3.52	<0.12	<0.05	<0.05	0.16	35.3	4.61	57.7	91.4
	10/09/2020	<0.07	3.76	0.19	<0.07	<0.18	<0.07	<0.18	0.17	<0.18	<0.07	<0.18	2.75	2	<0.07	<0.07	<0.07	1.74	1.09	6.8	13.6	3.73	2.21	<0.18	<0.07	<0.07	0.14	30.4	4.15	44	72.7
	21/04/2021	<0.07	10.1	1.39	0.12	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	2.69	6.9	0.1	<0.07	<0.07	0.78	0.28	5.87	3.6	10.3	1.11	<0.19	<0.07	<0.07	0.15	12.6	0.97	16.2	57
	11/10/2021	0.09	14.1	0.28	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	3.32	4.6	0.06	<0.05	<0.05	1.97	1.01	9.5	13.7	8.08	2.62	<0.12	<0.05	<0.05	0.21	27.3	3.45	41	90.4
	20/04/2022	0.08	9.32	0.58	<0.05	<0.12	<0.05	<0.12	0.08	<0.12	<0.05	<0.12	2.13	5.7	0.09	<0.05	<0.05	0.79	0.63	4.86	5.45	7.03	1.32	<0.12	<0.05	<0.05	0.13	22.9	1.68	28.4	62.8
	Decommissioned																														
Sub-Management Area Two																															
MW005	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	22.3	6.1	<0.05	<0.05	<0.05	9.5	26.4	92.1	388	5.53	31.6	<0.12	<0.05	<0.05	<0.05	234	14.6	622	830
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	16.4	5	<0.10	<0.10	<0.10	5.21	14.9	54.9	270	8.92	20.1	<0.25	<0.10	<0.10	<0.10	135	7.41	405	538
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	18.8	1.88	<0.0200	0.028	<0.0200	8.51	16.4	73.9	298	12	20.8	<0.0500	<0.0200	<0.0200	0.09	148	14.6	446	613
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	29.1	<2.5	<0.50	<0.50	<0.50	11.8	35.8	112	590	7.3	33	<1.25	<0.50	<0.50	<0.50	494	19.6	1,080	1,330
	16/10/2019	<0.10	0.42	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	33.8	5	<0.10	<0.10	<0.10	12	27.7	116	590	21.7	32.3	<0.25	<0.10	<0.10	0.13	260	18.9	850	1,120
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	19.9	<5.3	<0.50	<0.50	<0.50	8.7	18.4	76.2	372	12.4	24.8	<1.25	<0.50	<0.50	<0.50	232	12.5	604	777
	7/09/2020	<0.49	<0.49	<0.49	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	<0.49	<1.22	22.3	9	<0.49	<0.49	<0.49	7.89	17.6	79.7	364	13.2	24.2	<1.22	<0.49	<0.49	<0.49	174	13.2	538	725
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	38	<50	<10	<10	<10	19	37	148	757	27	41	<25	<10	<10	<10	373	25	1130	1460
	14/10/2021	<0.86	<0.86	<0.86	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	<0.86	<2.15	50.8	18.1	<0.86	<0.86	<0.86	21.4	74.2	231	1050	32.4	65.6	<2.15	<0.86	<0.86	<0.86	745	37.7	1800	2330
	20/04/2022	<2.5	<2.5	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	48	15.5	<2.5	<2.5	<2.5	21.5	59.5	208	988	32.2	64.8	<6.25	<2.5	<2.5	<2.5	817	36.8	1800	2290
11/10/2022	<0.05	<0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	32.8	12.7	<0.05	<0.05	<0.05	15.2	95	368	944	27	122	<0.12	<0.05	<0.05	<0.14	692	30.3	1640	2340	
MW015	16/08/2017	<0.05	0.19	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	14.2	3.6	<0.02	<0.02	<0.02	5.51	13.1	96.2	332	2.79	23.2	<0.05	<0.02	<0.02	0.03	198	9.04	530	698
	16/04/2018	<0.10	0.21	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	206	52.2	<0.10	<0.10	<0.10	62.3	116	545	2,580	86.1	252	<0.25	<0.10	<0.10	0.19	960	86.3	3,540	4,950
	19/12/2018	<0.020	0.202	0.068	<0.020	<0.050	<0.0200	<0.050	0.108	<0.050	<0.0200	<0.050	84	4.39	0.022	0.058	<0.0200	24.3	67	270	1,010	37.8	151	<0.0500	<0.0200	<0.0200	0.178	306	38.9	1,320	1,990
	30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	140	<2.5	<0.50	<0.50	<0.50	37.8	72.2	392	2,000	10.3	175	<1.25	<0.50	<0.50	<0.50	565	68.8	2,560	3,460
	16/10/2019	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	14.2	3.2	<0.02	<0.02	<0.02	4.41	11.3	42.7	210	7.43	17.9	<0.05	<0.02	<0.02	0.05	108	9.14	318	428
	30/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	110	<25.0	<5.00	<5.00	<5.00	32.5	61.5	326	1,450	42	141	<12.5	<5.00	<5.00	<5.00	334	46.5	1,780	2,540
	7/09/2020	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.2	7	<0.5	<0.5	<0.5	6.1	12.7	60.6	230	10.4	18.3	<1.25	<0.5	<0.5	<0.5	164	11.8	394	541
	29/04/2021	<2.17	<2.17	<2.17	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	<2.17	<5.43	119	26.3	<2.17	<2.17	<2.17	39.1	67.8	349	1440	59.3	189	<5.43	<2.17	<2.17	<2.17	440	59.6	1880	2790
	12/10/2021	<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	20.7	7	<0.5	<0.5	<0.5	6.73	20.2	64.9	276	9.86	29.1	<1.24	<0.5	<0.5	<0.5	137	12.6	413	584
	21/04/2022	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	54.9	13.2	<1	<1	<1	15.2	29.9	130	538	22.9	60.8	<2.5	<1	<1	<1	370	28.6	908	1260
11/10/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	16.9	5.2	<0.25	<0.25	<0.25	5.7	17.6	65.9	247	10.1	22.3	<0.62	<0.25	<0.25	<0.25	192	12.1	439	595	
MW016	16/08/2017	<0.05	1.64	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	55.8	17.6	<0.02	0.04	<0.02	17.9	70.8	151	680	35.9	94.1	<0.05	<0.02	<0					

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOA	EfFOAA	EfFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW046	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.98	1	<0.02	<0.02	<0.02	1.57	7.54	52.6	156	<0.02	7.77	<0.05	<0.02	<0.02	0.02	190	4.32	346	425
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.04	1.2	<0.10	<0.10	<0.10	1.55	6.64	23.4	88.7	2.42	6.96	<0.25	<0.10	<0.10	<0.10	149	3.62	238	288
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	8.5	0.312	<0.0200	<0.0200	<0.0200	3.45	10.3	70.7	186	4.54	13.7	<0.0500	<0.0200	<0.0200	0.054	87.1	8.12	273	393
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	10.7	<0.2	<0.05	<0.05	<0.05	4.57	14.4	63.3	242	2.27	17	<0.12	<0.05	<0.05	0.05	117	11	359	482
	30/05/2019	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	11.5	<5	<1	<1	<1	5.6	12.6	82.8	255	7.5	13	<2.5	<1	<1	<1	74.3	11	329	473
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	12.1	3.2	<0.02	<0.02	<0.02	4.92	12.7	86.2	282	7.41	19.1	<0.05	<0.02	<0.02	0.07	90	11.5	372	529
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	15.4	<9.5	<0.50	<0.50	<0.50	6.8	16.5	94	323	8.3	25.3	<1.25	<0.50	<0.50	<0.50	127	14.1	450	630
	7/09/2020	<0.32	<0.32	<0.32	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	<0.32	<0.8	9.61	3.1	<0.32	<0.32	<0.32	4.39	12.2	69.4	204	5.8	15.2	<0.8	<0.32	<0.32	<0.32	92.7	10.6	297	427
	28/04/2021	<0.43	<0.43	<0.43	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	<0.43	<1.09	4.96	<2.2	<0.43	<0.43	<0.43	2.56	9	36.2	123	3.87	8.91	<1.09	<0.43	<0.43	<0.43	93.5	6.22	216	288
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	0.05	0.19	0.74	2.56	0.08	0.19	<0.05	<0.02	<0.02	<0.02	1.93	0.12	4.49	5.97
	20/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.12	<1.2	<0.25	<0.25	<0.25	2.25	8.68	35	115	3.45	7.98	<0.62	<0.25	<0.25	<0.25	115	6.72	230	299
	10/10/2022	<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	5.15	<2.5	<0.5	<0.5	<0.5	2.9	10.6	43.9	151	4.35	11.4	<1.25	<0.5	<0.5	<0.5	97.6	7.95	249	335
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7
	13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196
	21/04/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	3.69	<1.2	<0.23	<0.23	<0.23	0.68	2.01	7.61	22.9	1.91	3.99	<0.58	<0.23	<0.23	<0.23	82.8	1.82	106	127
11/10/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.38	0.8	<0.1	<0.1	<0.1	0.62	1.84	9.09	25	1.8	3.55	<0.25	<0.1	<0.1	<0.1	79.4	1.5	104	127	
MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	0.39	194	12.3	290	396
	16/04/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	<0.0200	2.45	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	63.2	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235
	7/09/2020	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	<														

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOSA	EfFOSAA	EfFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																												0.13	220			
PFAS NEMP 2020 Drinking Water																													0.56	0.07		
Location ID	Sample Date																															
MW109	29/06/2017	<0.05	3.98	<0.05	<0.05	<0.05	<0.02	<0.05	0.66	<0.05	<0.02	<0.05	153	42.5	<0.02	<0.02	<0.02	9.77	73	252	911	65.4	122	<0.05	<0.02	<0.02	0.09	1,360	68	2,270	3,060	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.9	0.4	<0.05	<0.05	<0.05	0.46	0.46	3.9	15.4	0.96	2.78	<0.12	<0.05	<0.05	<0.05	22.9	0.92	38.3	50.1	
	15/08/2017	0.07	5	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	89.8	34.5	<0.02	0.03	<0.02	23.6	46.2	199	517	40.4	72.3	<0.05	<0.02	<0.02	0.3	781	46.4	1,300	1,860	
	15/08/2017	0.07	13.8	<0.05	<0.05	<0.12	<0.05	<0.12	0.48	<0.12	<0.05	<0.12	72.1	27.4	<0.05	<0.05	<0.05	22.4	45.6	201	501	35.1	68.3	<0.12	<0.05	<0.05	0.32	765	38.8	1,270	1,790	
	24/01/2018	<0.05	4.56	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	73.2	48.2	0.04	0.24	<0.02	21.8	54.8	215	583	37.4	67.2	<0.05	<0.02	<0.02	<0.02	1,200	50	1,780	2,380	
	16/04/2018	<0.10	<0.50	<0.10	<0.10	<0.25	<0.10	<0.25	0.25	<0.25	<0.10	<0.25	48.9	25.5	<0.10	<0.10	<0.10	13.2	28.4	127	304	31.3	50.8	<0.25	<0.10	<0.10	0.22	632	33.3	970	1,360	
	16/04/2018	-	6.23	-	-	-	-	-	<0.50	-	-	-	49.6	46.4	-	-	-	17.2	38	220	350	41.2	51.6	-	-	-	<0.50	666	39.8	982	1,460	
	19/12/2018	0.042	6.13	<0.020	<0.020	<0.050	<0.0200	<0.050	0.248	<0.050	<0.0200	<0.050	67.6	3.16	0.03	0.04	<0.0200	20.6	50.7	196	494	33.8	81.3	<0.0500	<0.0200	<0.0200	0.252	683	36.8	1,180	1,670	
	29/04/2019	<0.05	6.22	<0.05	<0.05	<0.12	<0.05	<0.12	0.32	<0.12	<0.05	<0.12	101	0.4	<0.05	0.07	<0.05	21.6	63	279	767	14.9	97.9	<0.12	<0.05	<0.05	0.06	1,340	46	2,110	2,740	
	17/10/2019	<0.10	7.8	0.12	<0.10	<0.25	<0.10	<0.25	0.37	<0.25	<0.10	<0.25	73.5	29.8	<0.10	<0.10	<0.10	22.6	42	195	578	38.1	71	<0.25	<0.10	<0.10	0.29	779	44.4	1,410	1,980	
	27/04/2020	<5.00	6.5	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	60.5	<25.0	<5.00	<5.00	<5.00	12.5	35	127	416	26.5	55	<12.5	<5.00	<5.00	<5.00	668	30.5	1,080	1,440	
	11/09/2020	<1.58	3.01	<1.58	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	31.7	9.7	<1.58	<1.58	<1.58	8.87	18.7	75.2	216	15.5	27.2	<3.96	<1.58	<1.58	<1.58	348	17.6	564	771	
	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679	
13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1050	53.2	1660	2330		
21/04/2022	<0.5	4.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	33.7	13.4	<0.5	<0.5	<0.5	10.7	19.2	89.2	210	18.1	29	<1.25	<0.5	<0.5	<0.5	454	21.4	664	903		
11/10/2022	<0.25	12.4	<0.4	<0.25	<0.62	<0.25	<0.62	0.8	<0.62	<0.25	<0.62	62	30.8	<0.25	<0.25	<0.25	21.7	55.7	242	572	43.3	72	<0.62	<0.25	<0.25	<0.25	1000	46.8	1570	2160		
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000	
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
	21/04/2022	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
	12/10/2022	<0.5	1.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15.6	8.4	<0.5	<0.5	<0.5	6.55	10.8	63	182	17.4	17.4	<1.25	<0.5	<0.5	<0.5	222	10	404	555	
	MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
29/07/2017		<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060	
15/08/2017		<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
30/04/2019		<0.05	0.12	0.16	<0.05	<0.05																										

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																															
PFAS NEMP 2020 Drinking Water																															
Location ID	Sample Date																														
MW043	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.4	1.1	<0.05	<0.05	<0.05	3.69	6.51	36.1	210	5.35	13.9	<0.12	<0.05	<0.05	0.16	62.6	13.6	273	359
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.07	<0.12	<0.05	<0.12	4.74	1.8	<0.05	<0.05	<0.05	3.38	8.08	30.7	184	4.02	8.7	<0.12	<0.05	<0.05	0.19	132	11	316	389
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.072	<0.050	<0.0200	<0.050	6.22	0.56	0.02	<0.0200	<0.0200	3.23	8.48	33.9	146	4.02	14	<0.0500	<0.0200	<0.0200	0.126	66.9	9.23	213	293
	1/05/2019	<0.05	0.29	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	18.4	3.6	<0.05	<0.05	<0.05	4.46	9.02	39.8	127	7.56	26.7	<0.05	<0.05	<0.05	<0.05	80.2	9.04	207	326
	15/10/2019	<0.05	<0.05	<0.10	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	2.28	0.3	<0.02	<0.02	<0.02	1.88	6.58	15.4	104	2.43	3.4	<0.05	<0.02	<0.02	0.22	134	7.88	238	278
	28/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.44	<2.5	<0.50	<0.50	<0.50	1.5	3.24	15.6	72.9	2.44	5.59	<1.25	<0.50	<0.50	<0.50	76.9	4.64	150	187
	10/09/2020	<0.07	0.29	<0.07	<0.07	<0.18	<0.07	<0.18	0.07	<0.18	<0.07	<0.18	4.27	1.8	<0.07	<0.07	<0.07	1.88	3.1	18.3	85.7	3.12	5.59	<0.18	<0.07	<0.07	0.08	57.2	6.3	143	188
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.4	<5	<1	<1	<1	1.9	4.3	11.2	80.7	2	3.1	<2.5	<1	<1	<1	168	5.6	249	279
	11/10/2021	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	1.93	<1.2	<0.24	<0.24	<0.24	1.24	3.83	9.78	61.9	1.44	2.78	<0.61	<0.24	<0.24	<0.24	115	4.66	177	202
	13/04/2022	<0.26	<0.17	<0.26	<0.26	<0.64	<0.26	<0.64	<0.26	<0.64	<0.26	<0.64	2.02	<1.3	<0.26	<0.26	<0.26	1.41	1.82	13.8	55.4	1.79	2.62	<0.64	<0.26	<0.26	<0.26	61.3	4.49	117	145
11/10/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.78	0.6	<0.1	<0.1	<0.1	1.4	1.94	14.3	52.9	1.73	2.7	<0.25	<0.1	<0.1	<0.1	45.3	4.44	98.2	127	
MW114	29/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.5	1.2	<0.05	<0.05	<0.05	0.54	0.57	6.91	16.3	0.67	3.81	<0.12	<0.05	<0.05	<0.05	10.5	0.64	26.8	46.6
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.65	0.4	<0.02	<0.02	<0.02	0.5	0.65	6.61	16.2	1.23	3.5	<0.05	<0.02	<0.02	<0.02	8.44	0.87	24.6	42
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.35	0.7	<0.02	<0.02	<0.02	0.6	1.95	3.99	25.6	0.89	2.74	<0.05	<0.02	<0.02	0.05	45.9	1.28	71.5	86
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	4.11	0.192	<0.0200	<0.0200	<0.0200	0.652	0.902	6.28	18.1	1.21	2.95	<0.0500	<0.0200	<0.0200	0.034	17.6	0.97	35.7	53
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.24	0.58	1.79	8.51	0.45	1.12	<0.05	<0.02	<0.02	<0.02	14.3	0.5	22.8	28.6
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.38	0.7	<0.02	<0.02	<0.02	0.65	1.17	4.57	22.5	1.02	1.77	<0.05	<0.02	<0.02	0.04	24	1.22	46.5	60
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	0.8	<0.05	<0.05	<0.05	0.48	0.95	4.28	17.8	1	2.19	<0.12	<0.05	<0.05	<0.05	19.8	0.78	37.6	50.1
	10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	1.64	0.5	<0.07	<0.07	<0.07	0.45	1.19	2.84	17.4	0.67	1.66	<0.19	<0.07	<0.07	<0.07	25.2	1.2	42.6	52.8
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1	0.4	<0.05	<0.05	<0.05	0.39	1.43	2.26	15.4	0.49	1.36	<0.12	<0.05	<0.05	0.05	32.8	0.98	48.2	56.6
12/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.88	<0.5	<0.1	<0.1	<0.1	0.27	0.7	1.99	10.7	0.53	0.91	<0.25	<0.1	<0.1	<0.1	20.7	0.64	31.4	37.3	
11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.3	0.7	<0.05	<0.05	<0.05	0.46	0.83	5.9	12.8	1.03	2.02	<0.12	<0.05	<0.05	<0.05	16.5	0.8	29.3	43.3	
MW125	29/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.46	<0.05	0.62	0.62	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.26	<0.2	<0.05	<0.05	<0.05	0.62	2.8	7.29	35.9	1.16	2.86	<0.12	<0.05	<0.05	<0.05	30.3	1.41	66.2	84.6
	18/12/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	2	<0.020	<0.010	<0.010	<0.010	0.594	1.59	8.27	37	1.1	2.59	<0.025	<0.010	<0.010	0.013	21.5	0.778	63.9	80.8
	28/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	0.32	<1.2	<0.25	<0.25	<0.25	<0.25	<0.25	1.48	7.12	<0.25	0.32	<0.62	<0.25	<0.25	<0.25	22.3	<0.25	29.4	31.5
	10/09/2020	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.4	<0.2	<0.05	<0.05	<0.05	0.11	0.18	1.91	7.13	0.26	0.38	<0.12	<0.05	<0.05	<0.05	11.6	0.17	18.7	22.2
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884
	13/10/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.67	<1.1	<0.1	<0.1	<0.1	1.26	4.09	18.6	79.8	2.64	5.95	<0.25	<0.1	<0.1	<0.1	307	2.03	387	425
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.15	0.78	3.12	0.11	0.21	<0.06	<0.02	<0.02	<0.02	14	0.08	17.1	18.7
	11/10/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	4.14	<2.4	<0.48	<0.48	<0.48	1.67</													

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOFA	EfFOFAA	EfFOFE	FOSA	MeFOFA	MeFOFAA	MeFOFE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW033	18/08/2017	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.98	<0.05	<0.02	<0.05	1.36	<0.1	0.02	0.29	<0.02	0.65	0.9	2	10.6	1.13	0.96	<0.05	<0.02	<0.02	0.04	28	1.42	38.6	48.6		
	17/04/2018	<0.05	0.12	0.15	<0.05	<0.05	<0.02	<0.05	0.6	<0.05	<0.02	<0.05	0.79	0.6	0.04	0.54	<0.02	1.01	0.77	2.88	7.99	1.07	0.92	<0.05	<0.02	<0.02	0.13	30.7	1.71	38.7	50		
	18/12/2018	<0.020	0.09	0.148	<0.020	<0.050	<0.0200	<0.050	0.424	<0.050	<0.0200	<0.050	0.602	0.068	0.064	0.43	<0.0200	1.11	0.708	2.61	7.21	1.09	0.632	<0.0500	<0.0200	<0.0200	0.116	41.4	2.05	48.6	58.8		
	2/05/2019	<0.05	<0.05	0.12	<0.05	<0.05	<0.02	<0.05	0.33	<0.05	<0.02	<0.05	0.6	<0.1	0.06	0.38	<0.02	0.74	0.62	2.38	4.86	0.34	0.65	<0.05	<0.02	<0.02	0.12	26.7	1.11	31.6	39		
	15/10/2019	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	1.11	0.5	0.05	0.13	<0.02	0.96	1.11	3.39	11	1.2	0.98	<0.05	<0.02	<0.02	0.12	25.6	1.78	36.6	48.4		
	28/04/2020	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	0.26	<0.05	<0.02	<0.05	3.24	0.7	0.05	0.48	<0.02	1.14	1.3	3.44	7.14	1.23	1.25	<0.05	<0.02	<0.02	0.08	31.8	1.79	38.9	54		
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	0.2	<0.16	<0.06	<0.16	0.7	0.5	<0.06	<0.06	<0.06	0.81	0.78	2.77	7.94	0.99	0.78	<0.16	<0.06	<0.06	<0.06	20.1	1.62	28	37.2		
	30/04/2021	<0.05	<0.05	0.08	<0.05	<0.12	<0.05	<0.12	0.24	<0.12	<0.05	<0.12	0.26	0.3	0.05	0.28	<0.05	0.48	0.24	1.1	2.18	0.5	0.28	<0.12	<0.05	<0.05	0.06	12.6	0.64	14.8	19.3		
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.13	<0.12	<0.05	<0.12	0.8	0.5	<0.05	<0.05	<0.05	1.12	0.86	3.06	8.17	1.15	0.93	<0.12	<0.05	<0.05	<0.05	18.2	2.15	26.4	37.1		
	21/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	0.21	<0.25	<0.1	<0.25	1.02	<0.5	<0.1	0.43	<0.1	0.75	0.68	3.05	8.56	0.91	1.11	<0.25	<0.1	<0.1	<0.1	19.7	1.54	28.3	38		
13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.14	<0.05	<0.02	<0.05	0.43	0.3	0.02	0.25	<0.02	0.5	0.31	1.57	3.13	0.62	0.44	<0.05	<0.02	<0.02	0.04	9.3	0.84	12.4	17.9			
MW034	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	10.7	<0.1	<0.02	<0.02	<0.02	0.25	0.72	2.76	15.4	0.9	5.28	<0.05	<0.02	<0.02	<0.02	1.56	0.36	17	37.9		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.8	0.8	<0.02	<0.02	<0.02	0.48	0.57	4.33	14.5	0.99	4.74	<0.05	<0.02	<0.02	<0.02	2.73	0.5	17.2	35.4		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	9.09	0.076	<0.0200	<0.0200	<0.0200	0.71	1.13	7.09	22.9	1.53	6.63	<0.0500	<0.0200	<0.0200	<0.0200	7.39	1.07	30.3	57.6		
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.12	<0.2	<0.05	<0.05	<0.05	0.54	0.74	5.16	17.4	0.18	4.9	<0.12	<0.05	<0.05	<0.05	4.92	0.76	22.3	40.7		
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.7	0.3	<0.02	<0.02	<0.02	0.39	0.42	4.82	10.6	1.05	3.16	<0.05	<0.02	<0.02	<0.02	1.43	0.42	12	29.3		
	28/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.06	0.9	<0.02	<0.02	<0.02	0.47	0.6	4.02	13	1.19	4.55	<0.05	<0.02	<0.02	<0.02	2.62	0.52	15.6	34		
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	6.24	0.6	<0.06	<0.06	<0.06	0.43	0.48	4.46	11.4	1.13	4.2	<0.16	<0.06	<0.06	<0.06	1.77	0.47	13.2	31.2		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.05	0.7	<0.02	<0.02	<0.02	0.48	0.69	4.47	13.2	1.04	4.01	<0.05	<0.02	<0.02	<0.02	5.08	0.59	18.3	35.3		
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.5	0.8	<0.05	<0.05	<0.05	0.48	0.6	4.97	13.1	1.22	4.18	<0.12	<0.05	<0.05	<0.05	1.92	0.42	15	34.2		
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	6.06	0.6	<0.02	<0.02	<0.02	0.39	0.56	4.48	11.4	1.06	4.15	<0.06	<0.02	<0.02	<0.02	2.21	0.47	13.6	31.4		
13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.87	0.8	<0.02	<0.02	<0.02	0.42	0.74	5.94	15.5	1.23	4.73	<0.05	<0.02	<0.02	<0.02	3.17	0.44	18.7	39.8			
MW049	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	0.1	0.15	<0.02	0.02	0.23	0.06	0.52	1.69	0.19	0.22	<0.05	<0.02	0.02	0.07	1.74	0.29	3.43	5.63		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	0.05	<0.02	<0.02	0.09	0.08	0.36	2.26	0.14	0.34	<0.05	<0.02	<0.02	<0.02	1.6	0.16	3.86	5.37		
	28/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.27	1.48	0.06	0.23	<0.05	<0.02	<0.02	<0.02	0.8	0.08	2.28	3.27		
	12/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	1.11	<0.02	0.2	0.47	<0.02	0.33	0.21	0.4	0.03	<0.05	0.02	0.16	0.77	1.46	1.16	1.67	6.48		
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	0.62	<0.02	0.08	0.41	0.03	0.39	0.74	0.33	0.08	<0.05	<0.02	0.07	0.38	1.56	0.75	2.3	5.66		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.084	<0.020	0.13	<0.0200	0.02	0.146	0.022	0.202	0.322	0.136	0.054	<0.0500	<0.0200	<0.0200	0.072	0.518	0.186	0.84	1.89		
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0034	<0.001	<0.0005	<0.001	0.535	0.033	0.0502	0.0062	0.0085	0.481	0.133	1.24	3.54	0.574	0.448	0.0024	0.0013	0.0053	0.0344	1.42	0.369	4.96	8.88		
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	0.03	<0.02	0.03	0.07	0.08	0.39	2.14	0.11	0.23	<0.05	<0.02	<0.02	<0.02	1.41	0.12	3.55	4.94		
	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05																						

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOFA	EtFOSAA	EtFOSE	FOSA	MeFOFA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW061	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.58	0.3	<0.02	<0.02	<0.02	0.25	0.58	2.12	6.83	<0.02	0.86	<0.05	<0.02	<0.02	<0.02	<0.02	14.8	0.72	21.6	27	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.67	0.4	<0.02	<0.02	<0.02	0.28	0.64	2.05	8.75	0.43	0.97	<0.05	<0.02	<0.02	<0.02	<0.02	20.6	0.79	29.4	35.6	
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.026	<0.050	<0.0200	<0.050	0.556	0.068	<0.0200	<0.0200	<0.0200	0.216	0.388	1.81	6.24	0.354	0.666	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	11.9	0.614	18.1	22.8	
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	0.44	0.2	<0.02	<0.02	<0.02	0.19	0.48	1.6	5.53	0.28	0.66	<0.05	<0.02	<0.02	<0.02	<0.02	16.5	0.59	22	26.5	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.51	0.3	<0.02	<0.02	<0.02	0.23	0.48	1.79	7.55	0.35	0.73	<0.05	<0.02	<0.02	<0.02	<0.02	17.2	0.67	24.8	29.8	
	28/04/2020	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	0.72	0.3	<0.02	<0.02	<0.02	0.22	0.69	1.93	6.63	0.36	0.78	<0.05	<0.02	<0.02	<0.02	<0.02	19.4	0.7	26	31.9	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.52	0.3	<0.04	<0.04	<0.04	0.21	0.44	1.7	6.53	0.35	0.74	<0.09	<0.04	<0.04	<0.04	<0.04	11.6	0.7	18.1	23.1	
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.05	<0.12	<0.05	<0.12	0.45	0.3	<0.05	<0.05	<0.05	0.21	0.43	1.33	5.93	0.32	0.61	<0.12	<0.05	<0.05	<0.05	<0.05	12.6	0.55	18.5	22.8	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	0.04	<0.06	<0.02	<0.06	0.53	0.4	<0.02	<0.02	<0.02	0.23	0.47	1.69	7.31	0.38	0.74	<0.06	<0.02	<0.02	<0.02	<0.02	17.2	0.66	24.5	29.6	
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.48	0.4	<0.05	<0.05	<0.05	0.22	0.57	1.57	7.75	0.36	0.71	<0.12	<0.05	<0.05	<0.05	<0.05	21.4	0.7	29.2	34.2	
	13/10/2022	<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.24	<0.61	<0.32	<1.2	<0.24	<0.24	<0.24	<0.24	0.27	1.54	6.29	<0.24	0.51	<0.61	<0.24	<0.24	<0.24	<0.24	15.1	0.41	21.4	24.1	
	MW063	17/08/2017	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.17	0.4	<0.02	<0.02	<0.02	0.43	0.75	3.44	13.3	0.75	1.98	<0.05	<0.02	<0.02	<0.02	<0.02	17.1	1	30.4	40.6
		17/04/2018	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.74	0.8	<0.02	<0.02	<0.02	0.71	1.22	5.41	15.3	1.11	2.4	<0.05	<0.02	<0.02	<0.02	<0.02	28.3	1.2	43.6	58.5
17/12/2018		<0.020	0.146	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.5	0.126	<0.0200	<0.0200	<0.0200	0.488	0.67	4.37	12.5	0.83	1.51	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	15.1	0.806	27.6	38	
2/05/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.07	0.12	0.56	1.51	0.11	0.23	<0.05	<0.02	<0.02	<0.02	<0.02	3.46	0.12	4.97	6.38	
16/10/2019		<0.05	0.15	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.28	0.2	<0.02	<0.02	<0.02	0.45	0.76	3.5	9.49	0.72	1.19	<0.05	<0.02	<0.02	<0.02	<0.02	14.2	0.82	23.7	32.8	
29/04/2020		<0.05	0.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.55	0.4	<0.02	<0.02	<0.02	0.43	0.99	4.05	10.8	0.74	1.65	<0.05	<0.02	<0.02	<0.02	<0.02	19.3	0.85	30.1	41.1	
10/09/2020		<0.05	0.12	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	1.21	0.5	<0.04	<0.04	<0.04	0.43	0.77	3.18	11.2	0.73	1.41	<0.09	<0.04	<0.04	<0.04	<0.04	19.3	0.85	30.5	39.7	
30/04/2021		<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.16	0.6	<0.05	<0.05	<0.05	0.48	0.71	3.4	10.5	0.74	1.39	<0.12	<0.05	<0.05	<0.05	<0.05	15.9	0.8	26.4	35.8	
13/10/2021		<0.05	0.17	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.23	0.6	<0.02	<0.02	<0.02	0.5	0.99	3.5	12.4	0.72	1.82	<0.06	<0.02	<0.02	<0.02	<0.02	19.5	0.92	31.9	42.4	
21/04/2022		<0.05	0.12	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.34	0.5	<0.05	<0.05	<0.05	0.48	0.82	3.64	12.3	0.91	1.7	<0.12	<0.05	<0.05	<0.05	<0.05	24.9	1.03	37.2	47.7	
12/10/2022		<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.42	0.5	<0.05	<0.05	<0.05	0.54	0.96	3.98	12.6	0.76	1.62	<0.12	<0.05	<0.05	<0.05	<0.05	21.4	0.94	34	44.8	
MW112		16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	<0.05	0.58	0.08	4.22	9.28
		16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	<0.10	21.4	0.58	38.3	79
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	0.028	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	0.054	54.1	5.45	168	257		
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<1.88	<0.75	<0.75	<0.75	128	6.4	241	305		
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.03	<1.2	<0.05	<0.05	<0.05	1.1	3.82	13.6	50.8	1.98	4.76	<0.12	<0.05	<0.05	<0.05	<0.05	92	2.3	143	173	
	12/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.68	<1.2	<0.25	<0.25	<0.25	0.42	1.22	6.85	24.8	0.92	1.72	<0.62	<0.25	<0.25	<0.25	<0.25	31.8	0.92	56.6	70.3	
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.04	0.4	<0.05	<0.05	<0.05	0.62	1.35	8.8	25.5	1.23	2.48	<0.12	<0.05	<0.05	<0.05	<0.05	27.2	1.13	52.7	70.8	
	MW120	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1	
		17/04/2018	<0.05	<0																													

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOFA	EtFOFAA	EtFOFE	FOSA	MeFOFA	MeFOFAA	MeFOFE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																	
PFAS NEMP 2020 Drinking Water																																	
Location ID	Sample Date																																
MW232	10/07/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.66	0.3	<0.02	<0.02	<0.02	0.68	0.8	2.77	14.6	0.7	3.13	<0.05	<0.02	<0.02	<0.02	10.4	0.97	25	37.1		
	27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.48	2.4	<0.10	<0.10	<0.10	0.44	0.8	1.72	11.6	<0.10	1.93	<0.25	<0.10	<0.10	<0.10	12.9	0.73	24.5	34		
	17/08/2017	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.49	0.1	<0.02	<0.02	<0.02	0.23	1	1.41	13	0.51	1.73	<0.05	<0.02	<0.02	<0.02	9.52	0.58	22.5	30.7		
	24/01/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.07	0.4	<0.02	<0.02	<0.02	0.3	0.48	1.82	7.59	0.41	1.07	<0.05	<0.02	<0.02	<0.02	8.72	0.59	16.6	22.8		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.2	<0.02	<0.02	<0.02	0.11	0.41	0.61	3.53	0.16	0.49	<0.05	<0.02	<0.02	<0.02	9.46	0.29	13.8	16.6		
	17/12/2018	<0.020	0.068	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.32	<0.020	<0.0200	<0.0200	<0.0200	0.322	0.57	2.14	9.45	0.476	1	<0.0500	<0.0200	<0.0200	<0.0200	9.96	0.706	19.4	26		
	2/05/2019	<0.001	0.01	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.318	0.023	0.0006	0.0006	<0.0005	0.113	0.167	0.498	2.54	0.149	0.313	<0.0005	<0.0005	<0.0005	0.004	3.79	0.17	6.33	8.1		
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.2	<0.02	<0.02	<0.02	0.15	0.26	0.86	3.51	0.24	0.48	<0.05	<0.02	<0.02	<0.02	4.74	0.27	8.25	11.3		
	28/04/2020	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.11	0.27	0.74	3.06	0.18	0.43	<0.05	<0.02	<0.02	<0.02	5.77	0.24	8.83	11.6		
	11/09/2020	<0.52	<0.52	<0.52	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	<0.52	<1.31	0.78	<2.6	<0.52	<0.52	<0.52	<0.52	<0.52	1.46	6.12	<0.52	0.73	<1.31	<0.52	<0.52	<0.52	13.8	0.52	19.9	23.4		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.28	<0.2	<0.05	<0.05	<0.05	0.08	0.16	0.32	2.54	0.12	0.33	<0.13	<0.05	<0.05	<0.05	4.56	0.13	7.1	8.52		
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.69	0.2	<0.02	<0.02	<0.02	0.2	0.45	1	5.2	0.29	0.69	<0.06	<0.02	<0.02	<0.02	10.7	0.37	15.9	19.8		
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.51	<0.2	<0.05	<0.05	<0.05	0.13	0.26	0.7	3.64	0.21	0.46	<0.12	<0.05	<0.05	<0.05	12.3	0.3	15.9	18.5		
5/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.07	0.16	0.38	2.05	0.11	0.27	<0.05	<0.02	<0.02	<0.02	5.72	0.15	7.77	9.19			
MW234	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.05	<0.05	0.13	0.13			
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	0.15		
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0229	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0042	0.0069	0.0609	0.0032	0.0102	<0.0005	<0.0005	<0.0005	0.0007	0.112	0.0119	0.173	0.235		
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0044	0.0068	0.0647	0.003	0.0136	<0.0005	<0.0005	<0.0005	0.0005	0.0915	0.01	0.156	0.212		
	25/10/2019	<0.10	<0.10	<0.20	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.12	<0.10	0.12	0.12		
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.17	0.2		
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.2	0.23		
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.12	0.12		
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.1		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	0.03	0.12	0.15		
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.04	0.14	0.18		
	MW235	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.22	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	0.09	0.06	0.44
		19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0449	0.014	<0.0005	<0.0005	<0.0005	0.0658	0.0104	0.213	0.13	0.128	0.0185	<0.0005	<0.0005	<0.0005	0.004	0.121	0.171	0.251	0.922	
3/05/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0412	0.016	<0.0005	<0.0005	<0.0005	0.0769	0.0038	0.206	0.0866	0.168	0.0184	<0.0005	<0.0005	<0.0005	0.0046	0.0333	0.113	0.12	0.768		
29/04/2020		<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.1	<0.02	0.2	0.09	0.17	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.18	0.14	0.98		
20/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	0.1	<0.02	<0.02	<0.02	0.17	<0.02	0.41	0.09	0.28	<0.02	<0.05	<0.02	<0.02	0.04	0.08	0.28	0.17	1.48		
MW241	14/04/2022</																																

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																												0.13	220			
PFAS NEMP 2020 Drinking Water																													0.56	0.07		
Location ID	Sample Date																															
MW243	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	19.5	0.8	<0.05	<0.05	<0.05	0.98	1.24	9.38	55.7	2.68	10.9	<0.12	<0.05	<0.05	<0.05	1.77	0.98	57.5	104	
	17/04/2018	<0.10	3.15	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	162	29.3	<0.10	<0.10	<0.10	37	76.9	302	1,010	53.1	164	<0.25	<0.10	<0.10	<0.10	366	49.2	1,380	2,250	
	17/12/2018	<0.020	0.132	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	6.4	0.354	<0.0200	<0.0200	<0.0200	1.13	1.84	11.4	29.5	2.02	4.27	<0.0500	<0.0200	<0.0200	<0.0200	12	1.97	41.5	71	
	17/10/2019	<0.10	1.83	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	106	21.1	<0.10	<0.10	<0.10	26.4	35.6	232	747	41.4	106	<0.25	<0.10	<0.10	0.21	314	44.7	1,060	1,680	
	29/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	9.52	2.4	<0.25	<0.25	<0.25	2.42	3.22	23.3	59.6	5.1	8.98	<0.62	<0.25	<0.25	<0.25	92.4	3.8	152	211	
	9/09/2020	<0.48	<0.48	<0.48	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	<0.48	<1.21	29	8	<0.48	<0.48	<0.48	5.5	7.82	60.5	155	14.5	25	<1.21	<0.48	<0.48	<0.48	191	10.6	346	507	
	30/04/2021	<0.24	<0.24	<0.24	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	3.4	<1.2	<0.24	<0.24	<0.24	0.76	0.92	7.51	14.3	1.72	2.55	<0.59	<0.24	<0.24	<0.24	32	1.28	46.3	64.4	
	14/10/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.22	1.3	<0.02	<0.02	<0.02	1.01	2.27	11.1	22.4	2.63	4.4	<0.05	<0.02	<0.02	0.02	64.7	1.84	87.1	116	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.84	0.7	<0.05	<0.05	<0.05	0.53	0.96	5.82	14.3	1.42	2.49	<0.12	<0.05	<0.05	<0.05	16.1	1.04	30.4	46.2	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.68	0.5	<0.02	<0.02	<0.02	0.38	0.71	4.6	9.89	0.97	1.7	<0.05	<0.02	<0.02	<0.02	10.6	0.77	20.5	31.8	
	MW244	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.6	<0.2	<0.05	<0.05	<0.05	1.17	0.9	13.1	37.6	1.56	7.56	<0.12	<0.05	<0.05	<0.05	1.96	1.1	39.6	70.6
24/01/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	33.3	1.7	<0.02	<0.02	<0.02	5.12	5.88	61.9	191	6.84	36.2	<0.05	<0.02	<0.02	<0.02	27.3	7.32	218	377	
19/04/2018		-	-	-	-	-	-	-	-	-	-	-	4.73	<0.5	-	-	-	0.63	0.8	9.69	25.9	1.27	4.61	-	-	-	-	16.2	0.84	42.1	61.2	
19/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	19	0.368	<0.0200	<0.0200	<0.0200	3.43	7.83	38.7	112	3.42	19.7	<0.0500	<0.0200	<0.0200	0.026	60.2	5.08	172	270	
29/04/2019		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	55	<0.2	<0.05	<0.05	<0.05	3.62	3.54	49.4	123	<0.05	27	<0.12	<0.05	<0.05	<0.05	19.4	12	142	293	
18/10/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	21	1.5	<0.10	<0.10	<0.10	3.09	2.25	38.5	112	4.56	21.7	<0.25	<0.10	<0.10	<0.10	9.03	3.5	121	217	
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	8.07	0.7	<0.02	<0.02	<0.02	1.18	1.14	10.6	38.7	1.78	8.46	<0.05	<0.02	<0.02	<0.02	7.18	1.35	45.9	79.2	
7/09/2020		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.7	0.6	<0.05	<0.05	<0.05	0.8	0.73	9.79	22.9	1.24	3.62	<0.12	<0.05	<0.05	<0.05	5.55	1.02	28.4	52	
16/10/2021		<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	0.2	<0.02	<0.02	<0.02	0.06	0.14	1.06	2.24	0.24	0.41	<0.05	<0.02	<0.02	<0.02	3.05	0.11	5.29	8.18	
13/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.02	0.05	0.64	0.89	0.17	0.19	<0.05	<0.02	<0.02	<0.02	2	0.04	2.89	4.38	
11/10/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	<0.1	<0.02	<0.02	<0.02	0.08	0.18	1.1	3.21	0.19	0.64	<0.05	<0.02	<0.02	<0.02	3.43	0.13	6.64	9.6	
MW245	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7	0.3	<0.02	<0.02	<0.02	0.33	1.48	3.73	20	1.09	4.39	<0.05	<0.02	<0.02	<0.02	4.7	0.55	24.7	43.6	
	24/01/2018	-	2.02	-	-	-	-	-	-	-	-	-	31.2	24.6	-	-	-	20.5	20.5	-	357	18.6	44.6	-	-	-	-	59.1	32.6	416	686	
	17/04/2018	<0.05	<0.10	<0.10	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	18.5	8.3	<0.02	<0.02	<0.02	13.2	9.32	54.4	259	8.59	30.4	<0.05	<0.02	<0.02	0.11	59.6	21	319	486	
	17/12/2018	<0.020	0.77	0.14	<0.020	<0.050	<0.0200	<0.050	0.078	<0.050	<0.0200	<0.050	11.6	1.18	0.022	<0.0200	<0.0200	6.89	6.07	26.3	114	6.33	12.8	<0.0500	<0.0200	<0.0200	0.12	30.9	11.3	145	228	
	1/05/2019	<0.05	0.44	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	16.2	6.4	<0.02	<0.02	<0.02	8.42	7.09	46.5	123	8.73	27.7	<0.05	<0.02	<0.02	0.07	37.1	12.9	160	294	
	15/10/2019	<0.05	1.2	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	56.9	17.2	<0.02	<0.02	<0.02	24.8	10.7	151	352	31	57	<0.05	<0.02	<0.02	0.09	33.8	24.9	386	760	
	27/04/2020	<0.24	0.76	<0.24	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	<0.24	<0.60	16.7	6.9	<0.24	<0.24	<0.24	11.3	6.89	50.3	168	9.09	23	<0.60	<0.24	<0.24	<0.24	43.1	12.9	211	349	
	7/09/2020	<0.32	0.52	<0.32	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	<0.32	<0.81	28	12.4	<0.32	<0.32	<0.32	10.9	6.78	84.2	139	16.3	28	<0.81	<0.32	<0.32	<0.32	29.7	14.2	169	370	
	30/04/2021	<0.47	2.57	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	9.06	4	<0.47	<0.47	<0.47	6.51	8.16	29.2	114	5.99	13.4	<1.18	<0.47	<0.47	<0.47	47.1	12.9	161	251	
	13/10/2021	<0.48	0.48	<0.48	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	<0.48	<1.2	32.2	12.2	<0.48	<0.48	<0.48	21.1	21.8	114	328	17.6	50.5	<1.2	<0.48	<0.48	<0.48	81.7	33.4			

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOFA	EtFOSAA	EtFOSE	FOSA	MeFOFA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																												0.13	220			
PFAS NEMP 2020 Drinking Water																													0.56	0.07		
Location ID	Sample Date																															
MW470	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	0.38	0.04	0.1	<0.05	<0.02	<0.02	<0.02	0.09	<0.01	0.47	0.76
	13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.14	0.16
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0073	<0.002	0.0017	<0.0005	<0.0005	0.0007	0.0019	0.0122	0.0443	<0.0005	0.0043	<0.0005	<0.0005	<0.0005	0.0015	0.104	0.0063	0.148	0.184	
	10/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.1	0.1
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.2	<0.01	0.27	0.27
	23/09/2020	<0.05	0.1	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	<0.01	0.16	0.28
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.12
	14/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.42	<0.05	0.49
22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.13	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.42	<0.02	0.55	0.66	
Remaining Off-Base																																
MW201	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.0016	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0006	0.0062	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0223	<0.0005	0.0285	0.0307
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.004	<0.0005	0.0058	0.0191
	23/10/2019	<0.001	0.008	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0053	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.004	<0.0005	0.0058	0.0191
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
MW202	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.05	
	20/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0224	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	0.0113	0.0379	0.0023	0.011	<0.0005	<0.0005	<0.0005	<0.0005	0.0107	<0.0005	0.0486	0.0965	
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03	
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.05
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.04	
MW203	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.0026	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	<0.0005	0.0041	0.0067	
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0026	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0021	<0.0005	0.0041	0.0067	
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0212	<0.002	<0.0005	<0.0005	<0.0005	0.0034	0.0082	0.0443	0.194	0.0058	0.0147	<0.0005	<0.0005	<0.0005	<0.0005	0.198	0.0074	0.392	0.497	
	23/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0059	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.001	0.0072	0.0183	<0.0005	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	0.0189	0.0009	0.0372	0.0544	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.03
6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.03	0.05	
21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.04	
MW204	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	&																				

Table T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOSA	EfFOSAA	EfFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS			
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L				
LOR		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																												0.13	220					
PFAS NEMP 2020 Drinking Water																													0.56	0.07				
Location ID	Sample Date																																	
MW207	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.14	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.22		
	13/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0075	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0019	0.0074	<0.0005	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0042	<0.0005	0.0116	0.0229	
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0043	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.006	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.0069	0.0141
	23/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.04	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02	
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01			
MW208	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.14	0.31	
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.23	
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.138	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.004	0.0112	0.197	0.0081	0.0255	<0.0005	<0.0005	<0.0005	<0.0005	0.0499	0.0122	0.247	0.456			
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.28	0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.34	0.58		
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.13	0.25		
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.15	0.23		
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.24	0.35		
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.23	0.36		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.21	0.3		
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.05	<0.01	0.18	0.24		
MW209	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.02	0.19	0.31			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.22	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	0.02	0.44	0.64			
	6/05/2019	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0312	<0.002	<0.0005	<0.0005	<0.0005	0.004	0.0029	0.0193	0.075	0.0019	0.0062	<0.0005	<0.0005	<0.0005	<0.0005	0.0637	0.0022	0.139	0.213			
MW210	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.22	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07			
	6/05/2019	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.137	<0.002	<0.0020	<0.0020	<0.0020	0.0244	0.0326	0.282	1.31	0.023	0.101	<0.0050	<0.0020	<0.0020	<0.0020	0.52	0.034	1.83	2.46			
MW211	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.15	0.18			
	3/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0405	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0405	<0.0005	0.004	<0.0005	<0.0005	<0.0005	0.04							

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOFA	EtFOSAA	EtFOSE	FOSA	MeFOFA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTIDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID	Sample Date																															
MW264	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02	
	13/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.351	0.03	<0.0005	<0.0005	<0.0005	<0.0005	0.031	0.0132	0.076	0.904	0.103	0.222	<0.0005	<0.0005	<0.0005	<0.0005	0.0438	0.017	0.948	1.79
	13/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.227	<0.002	<0.0005	<0.0005	<0.0005	0.02	0.0055	0.0484	0.468	0.0496	0.074	<0.0005	<0.0005	<0.0005	<0.0005	0.0136	0.0071	0.482	0.913	
	8/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.199	0.026	<0.0005	<0.0005	<0.0005	0.0214	0.0151	0.039	0.648	0.0331	0.168	<0.0005	<0.0005	<0.0005	<0.0005	0.0728	0.0171	0.721	1.24	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.251	0.019	<0.0005	<0.0005	<0.0005	0.0181	0.0202	0.0355	0.808	0.0344	0.156	<0.0005	<0.0005	<0.0005	<0.0005	0.063	0.0143	0.871	1.42	
	20/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.29	<0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.29	0.45
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.48	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.52	0.83
	21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.87	0.02	0.2	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.93	1.62
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.22	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.66	<0.02	0.14	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.72	1.18
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.67	<0.02	0.14	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.74	1.21
8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.47	<0.02	0.09	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.51	0.74	
MW266	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0127	<0.002	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	0.0008	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0044	0.0024	0.0074	0.0242
	7/05/2019	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0503	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0074	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0061	0.0013	0.0135	0.0681
	21/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.03
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02
14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01
MW267	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.2	0.07	0.06	<0.05	<0.02	<0.02	<0.02	0.37	0.04	0.57	0.91
	23/01/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.02	0.08	0.37	0.05	0.08	<0.05	<0.02	<0.02	<0.02	0.32	0.03	0.69	1.06
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.09	0.58	0.06	0.07	<0.05	<0.02	<0.02	<0.02	0.32	0.02	0.9	1.27
	4/12/2018	<0.001	0.023	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0892	<0.002	<0.0005	<0.0005	<0.0005	0.0274	0.0204	0.0805	0.264	0.0569	0.0737	<0.0005	<0.0005	<0.0005	0.003	0.259	0.026	0.523	0.923	
	7/05/2019	<0.001	0.032	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0714	<0.002	<0.0005	<0.0005	<0.0005	0.0147	0.0071	0.0504	0.146	0.0013	0.0535	<0.0005	<0.0005	<0.0005	0.001	0.13	0.018	0.276	0.525	
	21/04/2020	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	0.14	0.25	<0.09	0.06	<0.05	<0.02	<0.02	<0.02	0.28	0.02	0.53	0.91
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.16	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.02	0.1	0.37	0.06	0.08	<0.05	<0.02	<0.02	<0.03	0.36	0.03	0.73	1.05
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.31	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.23	0.03	0.54	0.84
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.3	<0.02	0.08	<0.05	<0.02	<0.02	<0.02	0.21	<0.01	0.51	0.69	
	8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.22	0.3	
MW268	7/12/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<													

Table T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EfFOSA	EfFOSAA	EfFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																
PFAS NEMP 2020 Drinking Water																																
Location ID																																
Sample Date																																
MW471	6/11/2015	-	<0.01	<0.01	-	<0.005	-	<0.1	<0.002	<0.05	-	<0.1	0.007	-	<0.002	-	<0.005	<0.002	-	<0.002	0.033	-	-	<0.05	<0.005	<0.005	<0.002	0.074	<0.002	0.107	0.074	
	28/05/2016	-	<0.01	<0.01	-	<0.005	-	<0.1	<0.002	<0.05	-	<0.1	0.045	-	<0.002	-	<0.005	0.005	-	0.059	0.266	-	-	<0.05	<0.005	<0.005	<0.002	0.274	0.014	0.54	0.288	
	23/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.11	0.11	
	23/02/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.04	0.04	
	28/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.16	0.16
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.4	<0.01	0.49	0.52
	19/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.11	0.11
	8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.10	<0.01	0.12	0.12

Table T9: Historical Surface Water PFAS Analytical Results

sw123	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																
NHMRC - Recreational Use - Surface Water																																
Location ID Sample Date																																
Mundy Creek Catchment - On Base																																
SW001	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.11	1	<0.02	<0.02	<0.02	1	2.65	7.26	22.8	1.98	4.69	<0.05	<0.02	<0.02	0.22	59.9	2.96	82.7	108	
	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.99	0.9	<0.02	<0.02	<0.02	1.03	1.24	6.17	19.1	1.32	3.68	<0.05	<0.02	<0.02	0.13	48.1	1.78	67.2	86.4	
	19/04/2018	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	7.02	2.1	<0.02	0.04	<0.02	2.48	2.11	14.3	34.8	2.81	6.44	<0.05	<0.02	<0.02	0.21	50.6	4.66	85.4	128	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.22	0.312	<0.0200	<0.0200	<0.0200	0.584	0.6	3.35	8.83	0.644	1.27	<0.0500	<0.0200	<0.0200	0.078	14.6	1.37	23.4	32.8	
	2/05/2019	<0.001	0.011	0.003	<0.001	<0.001	<0.0005	<0.001	0.0065	<0.001	<0.0005	<0.001	1.17	0.13	0.0018	0.044	<0.0005	0.466	0.594	2.54	5.31	0.507	1.63	<0.0005	<0.0005	<0.0005	0.0406	11.5	1.03	16.8	25	
	14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	0.3	<0.02	<0.02	<0.02	0.25	0.2	1.6	3.65	0.36	0.53	<0.05	<0.02	<0.02	0.03	5.89	0.44	9.54	13.8	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.14	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	0.47	0.02	0.61	0.76
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.2	<0.02	<0.02	<0.02	0.09	0.1	0.58	1.79	0.2	0.26	<0.05	<0.02	<0.02	<0.02	3.22	0.2	5.01	6.93	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.3	<0.02	<0.02	<0.02	0.08	0.08	0.5	1.39	0.18	0.19	<0.05	<0.02	<0.02	<0.02	2.53	0.15	3.92	5.63	
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.2	<0.02	<0.02	<0.02	0.15	0.37	1.45	3.85	0.27	0.62	<0.05	<0.02	<0.02	<0.02	7.33	0.31	11.2	15.1	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.29	<0.2	<0.04	<0.04	<0.04	0.08	0.17	0.74	2.15	0.11	0.31	<0.09	<0.04	<0.04	<0.04	4.66	0.19	6.81	8.7	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.11	0.06	0.34	0.81	0.12	0.14	<0.05	<0.02	<0.02	<0.02	1.56	0.14	2.37	3.42	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.01	0.2	<0.02	<0.04	<0.02	0.32	0.54	2.46	5.44	0.39	1.15	<0.05	<0.02	<0.02	0.05	10.4	0.68	15.8	22.6	
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	<0.1	1.77	0.5	<0.04	<0.04	<0.04	0.66	0.65	4	10.1	0.79	1.99	<0.1	<0.04	<0.04	0.09	18.7	1.38	28.8	40.6		
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65	
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66	
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.0012	0.168	0.153	1.68	
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.174	0.0738	0.891	1.7	
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.151	1.73	2.74	
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5	
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.1	<0.01	0.14	0.17	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48	0.91	
17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.12	<0.2	<0.02	<0.02	<0.02	0.13	<0.02	0.26	0.43	0.21	0.05	<0.05	<0.02	<0.02	0.03	0.65	0.13	1.08	1.89		
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	11.7	1.18	27.7	45.7	
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.1	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	0.69	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.79	<0.10	1.48	1.72	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.36	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.01	0.28	0.28		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.02	0.05	0.38	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.01	1.19	1.34		
	17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.17	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.25	0.37	
SW121	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	0.288	<0.020	<0.0200	<0.0200	<0.0200</																

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																												0.13	220	
NHMRC - Recreational Use - Surface Water																												10	2	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW117	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	1	<0.05	<0.05	<0.05	0.75	0.64	3.63	10.8	<0.05	2.04	<0.12	<0.05	<0.05	<0.05	0.16	14.1	1.07	24.9	36.2
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.73	0.9	<0.02	<0.02	<0.02	1.11	0.93	6.17	13.9	1.25	2.96	<0.05	<0.02	<0.02	<0.02	0.09	18.4	1.88	32.3	50.8
	13/12/2018	<0.002	0.027	0.033	<0.002	<0.005	<0.0020	<0.005	0.003	<0.005	<0.0020	<0.005	0.346	<0.002	0.0052	0.0068	<0.0020	0.111	0.0878	0.52	1.44	0.164	0.198	<0.0050	<0.0020	<0.0020	0.0168	1.81	0.16	3.25	4.93	
	8/05/2019	<0.001	0.014	0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.29	0.252	0.0016	0.0258	<0.0005	1.11	1.05	7.73	16.4	1.37	3.07	<0.0005	<0.0005	<0.0005	0.0599	14.1	2.06	30.5	50.5	
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	0.1	<0.02	<0.02	<0.02	0.06	0.07	0.4	1.16	0.08	0.16	<0.05	<0.02	<0.02	<0.02	2.08	0.11	3.24	4.4	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	1.04	0.3	<0.05	<0.05	<0.05	0.37	0.28	2.17	4.93	0.42	1	<0.13	<0.05	<0.05	<0.05	6.67	0.7	11.6	17.9	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.2	<0.02	<0.02	<0.02	0.04	0.08	0.32	0.95	<0.08	0.12	<0.05	<0.02	<0.02	<0.02	2.45	0.1	3.4	4.19	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.67	0.3	<0.02	<0.02	<0.02	0.3	0.28	1.66	3.76	0.34	0.7	<0.05	<0.02	<0.02	0.04	8.57	0.77	12.3	17.4	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.84	0.2	<0.02	<0.04	<0.02	0.24	0.37	1.95	4.07	0.32	0.88	<0.05	<0.02	<0.02	0.04	7	0.53	11.1	16.4	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.62	0.2	<0.02	<0.02	<0.02	0.2	0.21	1.44	3.12	0.3	0.55	<0.05	<0.02	<0.02	<0.02	4.32	0.41	7.44	11.4	
7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.43	<0.1	<0.02	<0.02	<0.02	0.12	0.2	0.69	2.23	0.18	0.37	<0.05	<0.02	<0.02	<0.02	5.28	0.23	7.51	9.73		
SW118	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.46	0.3	1.77	4.85	0.4	1.14	<0.05	<0.02	<0.02	0.04	5.21	0.7	10.1	16.1	
	10/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.55	<0.1	<0.02	<0.02	<0.02	0.32	0.22	1.37	6.14	0.3	0.52	<0.05	<0.02	<0.02	<0.02	7.04	0.5	13.2	17	
	13/12/2018	<0.001	0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0507	<0.002	0.0009	0.0024	<0.0005	0.0332	0.0056	0.0358	0.155	0.0268	0.0188	<0.0005	<0.0005	<0.0005	0.0012	0.204	0.0108	0.359	0.546	
	8/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.22	0.4	<0.02	<0.02	<0.02	0.45	0.33	2.91	6.02	0.55	1.22	<0.05	<0.02	<0.02	0.03	7.46	0.86	13.5	21.4	
	24/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.34	0.01	0.42	0.46	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	0.1	<0.02	<0.02	<0.02	0.09	0.1	0.6	1.51	0.1	0.28	<0.05	<0.02	<0.02	<0.02	3.11	0.2	4.62	6.39	
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.2	<0.02	<0.02	<0.02	0.06	0.1	0.44	1.28	0.08	0.18	<0.05	<0.02	<0.02	<0.02	2.62	0.13	3.9	5.07	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.3	0.5	<0.05	<0.05	<0.05	0.58	0.44	3.12	7.16	0.67	1.3	<0.12	<0.05	<0.05	<0.05	10	1.2	17.2	26.3	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.49	0.2	<0.02	<0.02	<0.02	0.14	0.19	1.04	2.62	0.18	0.48	<0.05	<0.02	<0.02	0.02	3.7	0.3	6.32	9.36	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.56	0.1	<0.02	<0.02	<0.02	0.19	0.15	1.17	2.75	0.25	0.49	<0.06	<0.02	<0.02	<0.02	2.93	0.31	5.68	8.9	
7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.24	<0.1	<0.02	<0.02	<0.02	0.08	0.08	0.4	1.2	0.13	0.26	<0.05	<0.02	<0.02	<0.02	2.2	0.12	3.4	4.71		
SW119	20/04/2018	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.93	0.496	0.0009	0.0249	<0.0005	1.56	0.87	10.4	21.1	1.62	3.85	<0.0005	<0.0005	<0.0005	0.0622	14.7	2.68	35.8	61.3	
	13/12/2018	<0.002	0.012	0.019	<0.002	<0.005	<0.0020	<0.005	0.0052	<0.005	<0.0020	<0.005	0.604	0.082	0.0048	0.0036	<0.0020	0.208	0.243	0.972	3.15	0.291	0.418	<0.0050	<0.0020	<0.0020	0.0654	4.57	0.385	7.72	11	
	8/05/2019	<0.001	0.03	0.005	<0.001	<0.001	<0.0005	0.001	0.0079	<0.001	<0.0005	<0.001	5.25	0.417	0.003	0.0494	<0.0005	1.56	1.5	12.7	25	2.28	5.55	<0.0005	<0.0005	<0.0005	0.16	36.1	3.58	61.1	94.2	
	24/10/2019	<0.001	0.021	0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.341	0.059	0.0006	0.0029	<0.0005	0.138	0.125	0.883	2.27	0.184	0.413	<0.0005	<0.0005	<0.0005	0.0029	2.2	0.193	4.47	6.84	
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.84	<0.2	<0.05	<0.05	<0.05	0.28	0.32	1.82	5.19	0.4	0.89	<0.13	<0.05	<0.05	<0.05	5.41	0.64	10.6	15.8	
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.3	<0.02	<0.02	<0.02	0.11	0.18	0.84	2.95	0.15	0.42	<0.05	<0.02	<0.02	<0.02	6.02	0.21	8.97	11.2	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.26	0.03	0.05	<0.05	<0.02	<0.02	<0.02	0.47	0.03	0.73	1.03	
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.12	0.3	<0.02	<0.02	<0.02	0.29	0.42	2.42	5.08	0.4	1.2	<0.05	<0.02	<0.02	0.03	5.69	0.49	10.8	17.4	
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.09	<0.2																		

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																											0.13	220		
NHMRC - Recreational Use - Surface Water																											10	2		

Location ID	Sample Date	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.12	0.12
SW014	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.12	0.12
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.031	0.0069	0.065	0.131
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.0087	0.0033	0.0178	0.0527
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.0547	0.0055	0.0983	0.15
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.0131	0.287	0.452
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.01	0.08	0.18
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05	
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.08
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	0.12	
	SW016	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.22	0.1	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.04	0.5	0.88
17/04/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0211	<0.002	0.0006	<0.0005	<0.0005	0.012	0.003	0.0241	0.0769	0.0119	0.0092	<0.0005	<0.0005	<0.0005	0.0005	0.0885	0.0062	0.165	0.254	
17/04/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0241	<0.0005	0.0105	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.0023	<0.0003	0.0427	
17/12/2018		<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.007	<0.002	<0.0020	<0.0020	<0.0020	0.006	<0.0020	0.006	0.0282	0.0056	0.0022	<0.0050	<0.0020	<0.0020	<0.0020	0.0324	0.0028	0.0606	0.0842	
29/04/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0503	<0.002	<0.0005	<0.0005	<0.0005	0.0613	0.0127	0.0579	0.136	0.009	0.0249	<0.0005	<0.0005	<0.0005	0.0007	0.101	0.0141	0.237	0.468	
29/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.27	<0.01	0.34	0.4	
30/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.16	0.24	
31/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	<0.01	0.13	0.15	
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.05	0.05	0.49	1.96	0.05	0.22	<0.05	<0.02	<0.02	<0.02	0.48	0.08	2.44	3.64	
7/09/2020		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.52	<0.2	<0.05	<0.05	<0.05	0.12	<0.05	1.03	1.4	0.32	0.24	<0.12	<0.05	<0.02	<0.02	1.54	0.1	2.94	5.27	
22/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.51	0.19	0.14	0.34	0.3	0.05	<0.05	<0.02	<0.02	<0.02	0.61	0.03	0.95	2.43	
7/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.93	0.3	<0.02	<0.02	<0.02	0.11	<0.02	1.56	0.93	0.38	0.4	<0.05	<0.02	<0.02	<0.02	0.09	0.02	1.02	4.72	
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	0.47	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.24	0.03	0.71	1.06		
SW019	14/08/2017	<0.05	0.48	2.19	<0.05	<0.05	<0.02	<0.05	0.13	<0.05	<0.02	<0.05	5.37	2.7	0.13	0.04	<0.02	1.53	2.56	14.8	33.1	5	5.61	<0.05	<0.02	<0.02	0.74	35.6	4.88	68.7	115	
	14/08/2017	<0.05	1.09	1.19	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	3.86	2.3	0.1	<0.02	<0.02	1.53	1.03	11	26.8	3.3	4.26	<0.05	<0.02	<0.02	0.51	31.8	3	58.6	91.8	
	19/04/2018	<0.05	0.13	0.82	<0.05	<0.05	<0.02	<0.05	0.19	<0.05	<0.02	<0.05	12	3.6	0.08	0.04	<0.02	2.8	5.95	23.9	69	5.3	11	<0.05	<0.02	<0.02	0.31	62	4.4	131	202	
	19/12/2018	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.002	<0.005	<0.002	<0.005	0.578	<0.020	0.034	0.007	<0.002	0.224	0.324	1.15	4.07	0.298	0.484	<0.005	<0.002	0.004	0.082	6.26	0.546	11.4	16.3	
	19/12/2018	-	0.168	1	-	-	-	-	0.068	-	-	-	0.904	2.21	0.097	0.026	-	4.72	0.336	11.8	5.6	4.9	0.759	-	-	<0.0200	0.456	7.28	2.74	11.9	40.8	
	1/05/2019	<0.001	<0.005																													

Table T9: Historical Surface Water PFAS Analytical Results

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																												0.13	220	
NHMRC - Recreational Use - Surface Water																												10	2	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	0.03	14.3	0.64	25.3	34.1	
	1/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.122	0.012	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	0.0026	3.92	0.0652	2.44	3.03
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.397	0.038	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.152	6.38	8.25	
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.143	0.02	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0026	3.17	0.107	4.71	5.67	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	<0.0100	7.02	0.307	9.89	13.2	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	<0.0100	7.33	0.345	10.9	14.6	
	4/03/2018	<0.020	<0.020	0.024	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.72	0.35	<0.0200	<0.0200	<0.0200	0.466	1.24	3.82	15.5	0.74	1.91	<0.0500	<0.0200	<0.0200	<0.0200	19.9	1.04	35.4	47.7	
	4/03/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.78	0.198	<0.0200	<0.0200	<0.0200	0.506	1.34	3.99	16.5	0.806	1.86	<0.0500	<0.0200	<0.0200	<0.0200	20.3	0.984	36.8	49.3	
	5/03/2018	<0.010	<0.010	0.027	<0.010	<0.025	<0.0100	<0.025	0.038	<0.025	<0.0100	<0.025	2.2	1.12	<0.0100	<0.0100	<0.0100	0.513	1.33	5.26	16.7	1.17	2.09	<0.0250	<0.0100	<0.0100	<0.0100	20.4	1.28	37.1	52.1	
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.025	<0.025	<0.0100	<0.025	6.33	1.53	<0.0100	<0.0100	<0.0100	0.851	2.51	7.35	23.4	3.18	5.06	<0.0250	<0.0100	<0.0100	0.039	20.5	2.71	43.9	73.5	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	<0.05	<0.05	<0.05	2.53	0.8	<0.02	<0.02	<0.02	0.48	1.09	4.28	16.6	1.01	2.66	<0.05	<0.02	<0.02	0.03	18.7	1.06	35.6	57.4	
	18/04/2018	-	-	-	-	-	-	-	<0.10	-	-	-	2.96	1.8	-	-	-	1.58	1.6	14.5	16.9	3.79	2.67	-	-	-	0.11	25.9	1.47	42.5	65.1	
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.88	0.8	<0.02	<0.02	<0.02	0.34	<0.02	3.93	<0.02	0.99	0.06	<0.05	<0.02	<0.02	<0.02	<0.01	0.32	<0.01	7.32	
	17/12/2018	<0.002	<0.002	0.007	<0.002	<0.005	<0.0020	<0.005	0.006	<0.005	<0.0020	<0.005	0.891	0.114	<0.0020	0.0028	<0.0020	0.118	0.348	1.28	4.95	0.353	0.545	<0.0050	<0.0020	<0.0020	0.006	3.97	0.271	8.92	12.9	
	1/05/2019	<0.001	0.012	0.034	<0.001	<0.001	<0.0005	<0.001	0.0219	<0.001	<0.0005	<0.001	2.97	0.113	0.0075	0.0109	<0.0005	0.32	1.16	4.9	1.63	0.803	2.18	<0.0005	<0.0005	0.0006	0.0296	17.2	1.01	18.8	32.4	
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	1.49	0.6	<0.02	<0.02	<0.02	0.36	0.87	3.46	11.5	0.8	1.37	<0.05	<0.02	<0.02	0.04	24.7	0.88	36.2	46.1	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	0.1	<0.02	<0.02	<0.02	0.02	0.04	0.18	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.78	0.01	0.96	1.15	
	30/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	0.1	0.12	0.65	0.04	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	3.06	0.05	3.71	4.15	
	31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.17	<0.2	<0.05	<0.05	<0.05	0.21	0.28	1.88	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	<0.05	4.44	0.12	6.32	7.28	
	29/04/2020	<0.05	<0.05	0.07	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	1.86	0.7	<0.02	0.03	<0.02	0.39	0.92	3.91	9.33	1.1	1.74	<0.05	<0.02	<0.02	0.03	12.6	0.66	21.9	33.4	
10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	<0.11	0.5	<0.2	<0.04	<0.04	<0.04	0.14	0.42	1.22	3.99	0.33	0.44	<0.11	<0.04	<0.04	<0.04	27.3	0.37	31.3	34.7		
22/04/2021	<0.05	<0.05	0.06	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.29	0.3	<0.02	<0.02	<0.02	0.31	0.75	2.26	6.76	0.54	1.58	<0.05	<0.02	<0.02	<0.02	6.42	0.49	13.2	20.8		
7/10/2021	<0.05	1.13	0.07	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	1.4	0.4	0.03	<0.32	<0.02	0.33	1.16	3.12	8.24	0.71	1.44	<0.05	<0.02	<0.02	0.08	39.8	0.82	48	58.8		
21/04/2022	<0.1	0.23	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.81	<0.5	<0.1	<0.1	<0.1	0.48	0.75	3.17	10.3	1.07	1.64	<0.25	<0.1	<0.1	<0.1	14.8	0.7	25.1	35		
17/10/2022	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	0.69	0.2	<0.02	0.07	<0.02	0.2	0.45	1.5	4.44	0.35	0.63	<0.05	<0.02	<0.02	<0.02	10.3	0.35	14.7	19.3		
SW125	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.1	<0.02	<0.02	<0.02	0.12	0.11	1.08	3.14	0.2	0.52	<0.05	<0.02	<0.02	<0.02	2.07	0.18	5.21	7.78	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.1	<0.02	<0.02	<0.02	0.11	0.19	1.09	3.62	0.19	0.39	<0.05	<0.02	<0.02	<0.02	3.07	0.17	6.69	9.3	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	<0.02	<0.02	<0.02	0.07	<0.02	0.96	<0.02	0.18	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.03	<0.01	1.4	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0378	<0.002	<0.0020	<0.0020	<0.0020	0.0066	0.0198	0.0732	0.326	0.0168	0.0262	<0.0050	<0.0020	<0.0020	<0.0020	0.565	0.0198	0.891	1.09	
	1/05/2019	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0076	<0.001	<0.0005	<0.001	1.02	0.051	0.0019	0.0027	<0.0005	0.248	0.56	3.43	9.73	0.548	1.07	<0.0005	<0.0005	<0.0005	0.0125	9.98	0.594	19.7	27.3	
	15/10/2019	<0.05	<0.05	<0.05	<0.05</																											

sw123	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																		
NHMRC - Recreational Use - Surface Water																																		
Location ID Sample Date																																		
Three Mile Creek Catchment - On Base																																		
SW102	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.54	0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.38	<0.01	0.92	1.2		
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0226	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.0032	0.0078	0.0302	0.204	<0.0020	0.0196	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.325	0.0146	0.529	0.627	
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.023	0.117	<0.0020	<0.0020	<0.0020	<0.0020	0.0034	0.0094	0.035	0.205	<0.0020	0.0224	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.364	0.0138	0.569	0.793	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.014	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.037	0.129	<0.0100	0.013	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.308	<0.0100	0.437	0.501	
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.018	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.013	0.063	0.201	<0.0100	0.018	<0.0250	<0.0100	<0.0100	<0.0100	0.373	0.016	0.574	0.702	
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0264	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.006	0.0164	0.0471	0.281	0.0098	0.0199	<0.0005	<0.0005	<0.0005	<0.0005	0.506	0.023	0.787	0.94	
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0223	0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0051	0.0109	0.0416	0.198	0.0082	0.0169	<0.0005	<0.0005	<0.0005	<0.0005	0.468	0.0195	0.666	0.794	
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.021	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.018	0.055	0.237	<0.0100	0.019	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.526	0.022	0.763	0.898	
	5/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0442	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0088	0.0169	0.0414	0.166	<0.0005	0.0292	<0.0005	<0.0005	<0.0005	<0.0005	0.656	0.0283	0.822	0.991	
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.68	0.04	0.1	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.7	0.02	1.38	1.82	
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	<0.01	0.19	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0282	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0024	0.0096	0.0282	0.153	0.0112	0.0128	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.261	0.0064	0.414	0.513
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.295	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.04	0.04	0.383	1.26	0.0919	0.234	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.471	0.0424	1.73	2.87	
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.36	0.2	-	-	-	0.0519	0.0408	0.69	1.44	0.12	0.25	-	-	-	-	-	0.67	0.05	2.11	3.86		
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.87	1.85	0.16	0.26	<0.05	<0.02	<0.02	<0.02	<0.02	0.62	0.06	2.47	4.48	
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.54	<0.3	-	-	-	0.05	0.05	0.9	1.97	0.18	0.32	-	-	-	-	-	0.71	0.07	2.68	4.94		
29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.02	0.16	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.42	<0.01	0.58	0.63		
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.2	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.35	1.77	0.1	0.24	<0.05	<0.02	<0.02	<0.02	<0.02	0.78	0.04	2.55	3.61		
9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.29	1.6	<0.05	<0.05	<0.05	0.27	0.12	4.74	10.5	0.98	2.32	<0.12	<0.05	<0.05	<0.05	<0.05	1.19	0.24	11.7	26.2			
22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.1	<0.02	<0.02	<0.02	0.1	0.08	1.22	3.75	0.19	0.79	<0.05	<0.02	<0.02	<0.02	<0.02	0.9	0.09	4.65	8.02			
7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.27	0.3	<0.02	<0.02	<0.02	0.16	0.13	2.88	5.99	0.38	1.48	<0.05	<0.02	<0.02	<0.02	<0.02	1.18	0.18	7.17	15			
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	0.2	<0.02	<0.02	<0.02	0.05	0.08	0.72	2.91	0.13	0.52	<0.05	<0.02	<0.02	<0.02	<0.02	1.7	0.11	4.61	7.06			
Three Mile Creek Catchment - Off Base																																		
SW107	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.15	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	0.29	0.35		
	20/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.167	<0.002	<0.0005	<0.0005	<0.0005	0.0038	0.0084	0.0822	0.489	0.0188	0.0813	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.124	0.0085	0.613	0.983		
	6/05/2019	<0.002	0.004	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0766	<0.002	<0.0020	<0.0020	<0.0020	0.004	0.01	0.0536	0.44	<0.0020	0.0634	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.134	0.008	0.574	0.794		
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.10	<0.02	<0.02	<0.02	<0.02	0.13	0.43	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.58	0.88		
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.3	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.21	0.01	0.51	0.68		
12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.15	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.19	1.33	<0.04	0.16	<0.05	<0.02	<0.02	<0.02	<0.02	0.4	0.04					

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002			
Location ID		Sample Date																														
Mundy Creek Catchment - On Base																																
SD001	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0024	<0.001	<0.0002	0.0008	<0.0002	0.001	0.0011	0.0055	0.0145	0.001	0.0021	<0.0005	<0.0002	<0.0002	0.0007	0.0662	0.0033	0.0807	0.0986		
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0014	<0.001	<0.0002	0.0007	<0.0002	0.0007	0.0006	0.0034	0.0082	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0282	0.0014	0.0364	0.0466		
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0035	<0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0174	0.0002	0.0209	0.0234	
	23/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	<0.001	<0.0025	0.0073	<0.005	<0.001	<0.001	<0.001	0.0022	0.0032	0.0154	0.0437	0.0032	0.0062	<0.0025	<0.001	<0.001	<0.001	0.0816	0.0064	0.125	0.169	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0002	<0.0002	<0.0002	0.0004	0.0003	0.0036	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0262	0.0002	0.0298	0.0319	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0007	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	0.0006	<0.0002	0.0004	0.0017	0.0019	0.0109	0.0004	0.0011	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	0.0579	0.0022	0.0688	0.0783
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0012	0.0032	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0185	0.0006	0.0217	0.025	
17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	0.0012	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0116	<0.0002	0.0128	0.0128		
30/05/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	0.0002	<0.0002	0.0005	0.0004	0.0007	0.0007	0.0144	<0.0002	0.0007	<0.0005	<0.0002	0.0005	<0.0002	0.0358	0.0013	0.0502	0.0566		
SD010	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0007	0.0022	0.0004	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0122	0.0006	0.0144	0.0171		
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017		
	2/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0199	<0.0002	0.0203	0.0203		
	14/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0007	0.0041	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0154	0.0004	0.0195	0.0224	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0015	<0.0002	0.0015	0.0017	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.012	<0.0002	0.0129	0.0131	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0006	<0.0002	<0.0002	0.0003	0.0004	0.0035	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0239	0.0003	0.0274	0.0296	
7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0056	0.0056		
13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.006	<0.0002	0.0062	0.0062		
17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0004	<0.0004	0.0004	0.0021	0.0002	<0.0002	<0.0005	0.0003	<0.0002	<0.0002	0.0201	0.0006	0.0222	0.0237		
SD106	16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0004	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0022	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0052	<0.0002	0.0074	0.0091		
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0017	0.0004	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0706	<0.0002	0.0723	0.0729		
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0022	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0633	0.0002	0.0655	0.0661		
	11/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0025	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0366	<0.0002	0.0391	0.0394		
13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	0.001	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0252	<0.0002	0.0262	0.0262			
17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0091	<0.0002	0.0099	0.0099			
SD121	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	0.0022	<0.001	0.0008	0.0006	<0.0002	0.0002	0.0008	0.0007	0.0042	<0.0002	0.0003	<0.0005	<0.0002	0.0005	0.0004	0.103	0.0008	0.107	0.114		
	19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0009	0.0009		
	18/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0019	0.0019		
	25/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.001	<0.0002	<											

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD113	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0028	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0023	0.0047	<0.0002	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0052	0.0117	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0026	<0.001	<0.0002	<0.0002	<0.0002	0.0012	0.0032	0.0062	0.0384	0.0012	0.0019	<0.0005	<0.0002	<0.0002	<0.0002	0.205	0.0033	0.243	0.263	
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	0.0013	<0.0002	0.0003	0.0011	0.002	0.0145	0.0004	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.0656	0.0009	0.0801	0.0893	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0047	0.006	0.0394	0.0008	0.0047	<0.0005	<0.0002	<0.0002	<0.0002	0.218	0.003	0.257	0.282
	16/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0005	<0.0002	<0.0002	0.0003	0.0009	0.0022	0.0092	0.0003	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0539	0.0005	0.0631	0.07
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0017	<0.002	<0.0005	<0.0005	<0.0012	<0.0005	0.0011	0.0035	0.014	0.0011	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0432	0.0011	0.0572	0.0672
	6/05/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0011	0.0066	0.0003	0.0007	<0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.093	0.0004	0.0996	0.106
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0002	<0.0002	<0.0002	0.0002	0.0007	0.0031	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0158	<0.0002	0.0189	0.0208
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0016	<0.0002	<0.0002	<0.0002	0.002	0.0017	0.0202	<0.0004	0.0015	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.138	0.0008	0.158	0.165
	7/10/2022	<0.001	<0.001	<0.001	<0.001	<0.0024	<0.001	<0.0024	<0.001	<0.0024	<0.001	<0.0024	0.0031	<0.005	<0.001	<0.001	<0.001	<0.001	0.0041	0.0058	0.0428	0.0031	0.004	<0.0024	<0.001	<0.001	<0.001	<0.001	0.162	0.0022	0.205	0.227
SD114	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.001	0.0003	<0.0002	0.0003	<0.0002	0.0003	<0.0002	0.001	<0.0002	<0.0002	<0.0006	<0.0002	<0.0002	0.0004	0.0096	<0.0002	0.0106	0.0119	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0045	<0.0002	0.0048	0.0048		
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0105	<0.0002	0.0108	0.0108	
	9/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0028	0.0035	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0059	<0.0002	0.0064	0.0066	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0065	<0.0002	0.0068	0.0068	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0067	<0.0002	0.0072	0.0072	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0002	0.0013	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0088	<0.0002	0.0101	0.0106	
	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0089	<0.0002	0.0091	0.0091	
SD115	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0018	<0.0002	0.0024	0.0026	
	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0014	<0.0002	0.0014	0.0014	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	0.0012	<0.0002	0.0002	0.0008	0.0013	0.0072	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0526	0.0009	0.0598	0.0656	
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0012	0.0007	0.0003	<0.0002	0.0008	0.0071	<0.0002	<0.0002	<0.0005	<0.0002	0.0003	<0.0002	0.0479	0.0004	0.055	0.0596	
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0003	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	0.0019	<0.0002	0.0005	0.001	0.0025	0.0092	0.0005	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0472	0.0012	0.0564	0.067	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0006	<0.0005	<0.0002	<0.0005	0.0																			

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS			
SD019	8/06/2017	<0.0005	<0.0005	0.0089	<0.0005	<0.0005	<0.0002	<0.0005	0.013	<0.0005	<0.0002	<0.0005	0.0013	<0.001	0.001	0.0017	0.0006	0.0007	0.0024	0.004	0.017	<0.0002	0.0014	<0.0005	<0.0002	0.0006	0.0005	0.223	0.0024	0.24	0.278			
	19/04/2018	<0.0005	<0.0005	0.0022	<0.0005	<0.0005	<0.0002	<0.0005	0.002	<0.0005	<0.0002	<0.0005	0.0053	0.001	<0.0002	0.001	0.0002	0.0014	0.0024	0.0113	0.0342	0.003	0.0044	<0.0005	<0.0002	0.0002	0.0003	0.0906	0.0025	0.125	0.162			
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0025	<0.001	0.0004	0.003	0.001	0.0007	0.0044	0.0045	0.0197	0.0016	0.0018	<0.0005	0.0004	0.0007	0.0007	0.363	0.0025	0.387	0.417			
	19/12/2018	-	-	0.0033	-	-	-	-	-	0.0016	-	-	-	0.0026	0.01	0.0612	0.0039	0.0124	0.112	0.0061	0.138	0.0243	0.0676	0.002	0.0008	0.002	0.0186	0.0419	0.439	0.084	0.459	1.02		
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.02	0.004	0.0007	0.0016	0.0011	0.0075	0.0089	0.0536	0.017	0.0111	0.0217	<0.0005	0.0004	0.0006	0.0009	0.0337	0.0115	0.0507	0.239			
	1/05/2019	-	0.0011	0.003	-	-	-	-	-	0.0017	-	-	-	0.0332	0.014	0.0204	0.0022	0.0095	0.0256	0.0194	0.0774	0.135	0.0227	0.037	0.0013	0.002	0.0097	0.0283	0.301	0.0437	0.436	0.744		
	18/10/2019	<0.0046	<0.0046	<0.0046	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	<0.0116	<0.0046	0.915	0.203	<0.0046	<0.0046	<0.0046	0.159	0.242	1.23	4.6	0.47	0.892	<0.0116	<0.0046	<0.0046	2.06	0.236	6.66	11			
	30/04/2020	<0.0005	<0.0005	0.0016	<0.0005	<0.0012	<0.0005	<0.0012	0.0012	<0.0012	<0.0005	<0.0012	0.0046	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0037	0.0081	0.0388	0.0029	0.0056	<0.0012	<0.0005	<0.0005	0.0005	0.223	0.0021	0.262	0.293		
	10/09/2020	<0.0005	<0.0005	0.0035	<0.0005	<0.0012	<0.0005	<0.0012	0.0192	<0.0012	<0.0005	<0.0012	0.0392	<0.022	0.0022	0.0013	0.0012	0.0099	0.008	0.123	0.106	0.0369	0.0232	<0.0012	0.0006	<0.0005	0.0022	0.453	0.0138	0.559	0.843			
	22/04/2021	<0.0005	<0.0005	0.0019	<0.0005	<0.0005	<0.0002	<0.0005	0.0024	<0.0005	<0.0002	<0.0005	0.0094	0.002	0.0004	0.0032	0.0004	0.0022	0.007	0.0181	0.071	0.0052	0.0106	<0.0005	<0.0002	0.0004	0.0003	0.156	0.0051	0.227	0.296			
	7/10/2021	<0.0025	0.0434	0.003	<0.0025	<0.0063	<0.0025	<0.0063	0.0312	<0.0063	<0.0025	<0.0063	0.0106	<0.013	<0.0025	0.0173	<0.0025	0.0079	0.0115	0.0464	0.144	0.01	0.0149	<0.0063	<0.0025	<0.0025	0.0039	0.78	0.0127	0.924	1.14			
	21/04/2022	<0.005	<0.005	<0.005	<0.005	<0.0125	<0.005	<0.0125	<0.005	<0.0125	<0.005	<0.0125	0.063	<0.025	<0.005	<0.005	<0.005	<0.005	0.0125	0.0616	0.18	0.651	0.0228	0.0755	<0.0125	<0.005	<0.005	1.64	0.0464	2.29	2.75			
	17/10/2022	<0.0005	0.002	0.0014	<0.0005	<0.0002	<0.0002	<0.0005	0.0364	<0.0006	<0.0002	<0.0006	0.0089	0.003	0.025	0.0014	0.0023	0.0043	0.0136	0.0297	0.114	0.0082	0.0108	0.0007	0.0011	0.0018	0.0023	0.7	0.0102	0.814	0.977			
	SD112	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011
19/04/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0037	<0.0002	0.0041	0.0044	
20/12/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.003	0.0032	
3/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	0.0017	0.0017	
25/10/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
29/04/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/09/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
16/04/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	0.0012	0.0012	
7/10/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0003	
12/04/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0028	0.0028	
7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0011	<0.0002	0.0011	0.0011		
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0008	0.0054	0.0024	0.0066	0.0454	0.058	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15			
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	0.0178	0.022	<0.0025	<0.0025	0.0025	0.0089																

Table T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD207	15/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0007	0.001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0073	0.001	0.0083	0.0102	
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0042	<0.0002	0.0046	0.0046	
	5/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0018	<0.0002	0.0018	0.0018	
	9/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.001	<0.0002	0.001	0.001	
	23/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0016	<0.0002	0.0016	0.0016	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0016	<0.0002	0.0016	0.0016	
	8/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	15/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	0.0007	0.0007	
	28/09/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0049	0.0002	0.0052	0.0054	
	5/05/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0026	<0.0002	0.0029	0.0029	
18/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0027	<0.0002	0.0027	0.0027		
Three Mile Creek Catchment - On Base																																
SD102	13/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0033	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0013	0.0025	0.0378	<0.0002	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.0333	0.0003	0.0711	0.0803	
	11/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0192	<0.0002	0.0209	0.0209	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0113	<0.0002	0.0126	0.0126	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0123	<0.0002	0.0131	0.0134	
	10/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0036	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0138	<0.0002	0.0174	0.0188	
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.0005	-	-	-	-	-	0.0003	0.0007	0.0043	-	0.0004	-	-	-	-	0.0158	-	0.0201	0.0217	
	17/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0008	<0.0006	<0.0002	<0.0006	<0.0006	<0.0002	0.0052	0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0021	0.0068	0.0413	0.001	0.0044	<0.0006	<0.0002	<0.0002	<0.0002	0.119	0.0014	0.16	0.186
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.0056	0.004	-	-	-	-	0.0008	0.0024	0.0097	0.0475	0.0019	0.0049	-	-	-	-	0.124	0.0019	0.172	0.2
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0004	<0.0002	0.0033	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0196	<0.0002	0.0229	0.0245
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	0.0233	0.007	<0.0002	<0.0002	<0.0002	<0.0002	0.002	0.0039	0.0257	0.107	0.004	0.0167	<0.0006	<0.0002	<0.0002	<0.0002	0.0948	0.0036	0.202	0.288
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	0.0017	<0.0002	<0.0002	0.0005	0.0014	0.0094	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0489	0.0004	0.0583	0.0636	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0077	0.003	<0.0002	0.0027	<0.0002	<0.0002	0.0011	0.0059	0.0117	0.0903	0.0015	0.0099	<0.0005	<0.0002	<0.0002	<0.0002	0.219	0.0026	0.309	0.355
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0048	<0.001	0.0003	<0.0002	<0.0002	<0.0002	0.0004	0.0017	0.0055	0.0311	0.0008	0.0035	<0.0005	<0.0002	<0.0002	<0.0002	0.129	0.003	0.16	0.18
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0377	0.01	0.0034	<0.0002	<0.0002	<0.0002	0.0035	0.0032	0.0754	0.136	0.0097	0.0279	<0.0005	<0.0002	<0.0002	<0.0002	0.122	0.0031	0.258	0.432
Three Mile Creek Catchment - Off Base																																
SD107	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0014	<0.0002	<0.0002	<0.0005								

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by:	█	Date:	19/01/2023
Client:	Department of Defence				
Site:	RAAF Townsville (0874)				
Matrix type:	Groundwater, surface water, sediment	Data verified by:	█	Date:	08/02/2022
No. of primary samples:	80 groundwater, 33 surface water, 41 sediment (October 2022) 1 groundwater, 3 sediment (December 2022)				
Laboratory:	ALS (Townsville), NMI (Sydney)	Project Manager:	█		
Lab reference:	ET2205248, ET 2205356, ET2205495, RN1370689, EB2237659, RN1379140 supersedes RN1376583				
Key Issues:	<p>No QA/QC issues were identified in the field or laboratory datasets that could have a material implication on data interpretation and therefore decision-making on the project.</p> <p>The data are considered appropriate for use to meet the project objectives.</p>				
Field QA/QC					
Sampling personnel	Sampling was conducted by AECOM personnel from 5 October to 19 October 2022. Additional sampling was conducted by AECOM personnel from 12 to 13 December 2022.				
Sampling Methodology	Groundwater, surface water and sediment samples were collected using appropriate methods as identified within the main body of the report. Hydrasleeves were installed in the well for a minimum of 24 hours prior to collection. Surface water samples were collected from immediately below the water surface. Sediment samples were collected from within the water body, where possible.				
Chain of Custody (COC)	COC documents completed as per AECOM procedures.				
Rinsate Blank	<p>Rinsate blank samples were collected at a frequency of one per field staff per day of sampling (twelve in total). One rinsate sample collected during the December 2022 resampling event was analysed by the secondary laboratory which has no affect of the validity of the results.</p> <p>Concentrations of all analytes tested were reported below the LOR for rinsate samples (refer Table C4 attached).</p>				
Trip Blanks	<p>Trip blank samples were submitted to the laboratory at a rate of one per batch of primary samples delivered to the laboratory with an additional trip blank submitted to the secondary laboratory in the December 2022 resampling event (six in total). Concentrations were reported below the LOR for all analytes tested in the trip blanks (refer Table C4 attached). Trip blanks were not submitted for batches where samples on private properties were collected.</p>				
Eskies to Laboratory	A total of six eskies of samples in three deliveries was submitted to ALS and one esky was submitted to NMI across the October 2022 sampling event. One esky was submitted to ALS and one esky was submitted to NMI during the December 2022 resampling event.				
Frequency of field QC	<p>Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples with the following frequencies:</p> <ul style="list-style-type: none"> • Ten duplicates and triplicates for groundwater (12.5%) • Four duplicate and triplicate for surface water (12.12%) • Six duplicate and triplicate for sediment (14.63%) <p>The target frequency of 10% for field duplicates and triplicates was achieved for all matrices. Although ten duplicate and triplicate samples were collected for groundwater,</p>				

	0874_QC102_221008 and 0874_QC202_221008 were removed from the data set due to labelling errors from the primary sample. The target frequency of 10% has still been maintained with 11.25% achieved for groundwater.
Handling and preservation	<p>Primary, duplicate and triplicate samples were received preserved and chilled at the laboratory. Sample receipt temperature was reported between 0.9°C and 17.7°C.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted.</p>
Equipment Calibration	Calibration of the water quality meter was conducted each day before sampling, see Appendix F .
Laboratory QA/QC	
Tests requested/reported	Samples were analysed and reported as requested on the COC
Holding time compliance	Samples were extracted and analysed within recommended holding times.
Laboratory Accreditation	The laboratory analysis was conducted by ALS Environmental Pty Ltd (Townsville and Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the National Measurement Institute (Sydney), also a NATA accredited laboratory.
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision, except:</p> <ul style="list-style-type: none"> • Laboratory duplicates for PFAS in water (2.63%) were below the expected rate of 10% in ET2205248. • Laboratory duplicates for PFAS in water (3.75%) were below the expected rate of 10% in ET2205356. • Laboratory duplicates for PFAS in water (1.69%) were below the expected rate of 10% in ET2205495. • Laboratory duplicates for PFAS in water (0%) were below the expected rate of 10% in EB2237659 • Matrix spikes for PFAS in water (0.00%) were below the expected rate of 5% in ET2205248. • Matrix spikes for PFAS in water (1.25%) were below the expected rate of 5% in ET2205356. • Matrix spikes for PFAS in water (1.69%) were below the expected rate of 5% in ET2205495. • Matrix spikes for PFAS in water (0%) were below the expected rate of 5% in EB2237659. <p>Appropriate frequency of quality control samples was completed for soil samples. The laboratory was provided with sufficient sample to complete the required analysis for water samples however internal laboratory procedures prevented the samples with additional volume from being selected to compete the internal laboratory QA/QC. Based on the results reported, the lower than expected frequency of quality control samples in not anticipated to impact the data set.</p>
Method Blank	No method blank value outliers were reported.
Laboratory duplicate RPDs	Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples with the exception of 0874_SD102_221017 in batch ET2205495 for Perfluoroalkyl Acids (PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFDS) ranged between 68.6 to 90.6% exceeding acceptable RPD (%) limits and Perfluoroalkyl Carboxylic Acids (PFPeA, PFHxA, PFHpA, PFOA) ranged between 61.2 to 88.2% exceeding acceptable RPD (%) limits. It was noted that the sample had poor duplicate results due to sample heterogeneity.
Laboratory control spike (LCS) recovery	All LCS recoveries were reported within acceptable limits, except QC_4676679 in batch ET2205495 for Perfluorooctane sulfonamide (FOSA) and N-Methyl perfluorooctane sulfonamide (MeFOSA) reported spike recovery (%) above the acceptable limits. This indicates that FOSA and MeFOSA concentrations may have been reported at higher

	<p>concentrations. All concentrations of FOSA and MeFOSA in batch ET2205495 were either below the LOR or within the same order of magnitude as historical results at SD019, SD123 and SW123 and therefore the dataset is not affected by the reported spike recovery (%) above the acceptable limits</p>
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> 0874_SD120_221007 (batch ET2205248) – Perfluoropentane sulfonic acid (PFPeS), Perfluorobutanoic acid (PFBA), Perfluorohexanoic acid (PFHxA), 10:2 Fluorotelmer sulfonic acid (10:2 FTS) all reported spike recovery (%) below acceptable limits. 0874_MW247_221010 (batch ET2205356) – Perfluorohexane sulfonic acid (PFHxS) and Perfluorooctane sulfonic acid (PFOS) were reported as not determined. 0874_SD014_221212 (batch EB2237659) – 10:2 Fluorotelmer sulfonic acid (10:2 FTS) was reported below acceptable limits. <p>Where matrix spike recoveries are reported below acceptable limits, the results for those samples may have been under reported. A review of the reported results indicates that this does not affect the interpretation of the results as they have all historically been reported <LOR or within the historical range of concentrations for these locations.</p>
Surrogate spike recovery	<p>Laboratory surrogate spike recoveries were within control limits, except 0874_SD014_221007 (batch EB2237659) PFAS Surrogate (13C4-PFOS) was reported above acceptable limits and may have led to over reporting of PFOS concentrations at this location. Resampling at this location in December indicated that the results were within the historical range and therefore new historical maximum concentrations were not confirmed and the PFOS concentrations reported by the laboratory in the October 2022 may have been falsely elevated.</p>
QA/QC Data Evaluation	
Comparison of Field Observations and Laboratory Results	<p>No anomalous results between field observations and analysis results were noted.</p>
Data transcription	<p>A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.</p>
Limits of reporting	<p>Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels. LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:</p> <p>ET2205248: SD014_221007, SD021_221007, SD209_221007, SD113_221007, SD118_221007, SW209_221007</p> <p>ET2205356: MW211_221008, MW213_221008, QC103_221008, QC102_221008, QC104_221010, MW016_221010, MW046_221010, MW055_221010, MW247_221010, MW021_221011, MW015_221011, QC106_221011, MW109_221011, MW054_221011, MW081_221011, MW005_221011, MW114_221011, MW246_221011, MW248_221011, MW125_221011, MW048_221011, MW245_221012, MW139_221012, MW138_221012, MW110_221012, MW112_221012, MW063_221012, MW222_221012, MW061_221013</p> <p>ET2205495: QC117_221014, SD013_221017, SD125_221017, QC111_221017, SD121_221017, SD010_221017, SW205_221018, MW013_221019, MW219_221019</p> <p>EB2237659: SD125</p>
Field duplicate RPDs	<p>Field duplicate RPDs (as shown in Tables C1, C2 and C3) were reported within control limits except (the sample with the higher concentration is in bold):</p> <ul style="list-style-type: none"> PFBS (31%), PFHpS (33%), PFPeS (40%), PFHxS (35%) in 0874_MW015_221011 and 0874_QC106_221011 PFBS (108%), PFHxA (84%), PFPeS (115%), PFOS (125%), PFHxS (104%) in 0874_MW224_221012 and 0874_QC107_221012

Field triplicate RPDs

Field triplicate RPDs (as shown in **Tables C1, C2 and C3**) were reported within control limits for all sample sets with the exception of the following (the sample with the higher concentration is in bold):

- PFHpS(41%), PFHpA (45%), PFHxA (43%), PFPeS (33%), PFPeA (44%) in **0874_MW016_221010** and 0874_QC204_221010
- PFHxA (70%), PFOS (44%) in **0874_MW090_221011** and 0874_QC205_221011
- PFHpS (74%), PFHpA (43%), PFHxA (59%), PFPeS (33%), PFPeA (48%), PFOS (54%), PFOA (47%), PFHxS (31%) in **0874_MW015_221011** and 0874_QC206_221011
- PFOS (84%), PFHxS (71%) in 0874_MW224_221012 and **0874_QC207_221012**
- PFHpS (31%), PFHxA (76%), PFOS (37%), PFHxS (33%) in **0874_MW218_221213** and 0874_QC251_221213

Triplicate concentrations were within the same order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results. The variability between the primary and triplicate results is inferred to be the result of slight differences in analytical methods employed by the two laboratories. This is demonstrated through the laboratory duplicate results all being within acceptable limits.

Lab Report Number	ET2205356	ET2205356		RN1370689		ET2205356	ET2205356		RN1370689	
Field ID	0874_MW205_221008	0874_QC100_221008	RPD	0874_QC200_221008	RPD	0874_MW213_221008	0874_QC103_221008	RPD	0874_QC203_221008	RPD
Sampled Date/Time	8/10/2022 9:30	8/10/2022 9:30		8/10/2022 9:30		8/10/2022 10:40	8/10/2022 10:40		8/10/2022 10:40	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.06	<0.06	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.06	<0.06	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.06	<0.06	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.06	<0.06	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.04	0.03	29	0.024	50	0.03	0.09	100	<0.01	100
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.05	0	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.06	<0.06	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.04	<0.07	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.07	0.06	15	0.028	86	<0.02	<0.02	0	<0.01	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2205356	ET2205356		RN1370689		ET2205356	ET2205356		RN1370689
Field ID	0874_MW016_221010	0874_QC104_221010	RPD	0874_QC204_221010	RPD	0874_MW090_221011	0874_QC105_221011	RPD	0874_QC205_221011
Sampled Date/Time	10/10/2022 16:25	10/10/2022 16:25		10/10/2022 16:25		11/10/2022 13:40	11/10/2022 13:40		11/10/2022 13:40
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<1.04	<1.35	0	0.33	0	<0.05	<0.05	0	0.012	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<1.04	<1.35	0	0.011	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<2.6	<3.38	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<2.6	<3.38	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<2.6	<3.38	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<2.6	<3.38	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	19.7	25.8	27	15	27	<0.04	<0.04	0	0.024	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	5.6	7.2	25	4.8	15	<0.1	<0.1	0	0.065	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	0.015	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	19.8	25.5	25	13	41	0.03	0.03	0	0.016	61
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	7.08	9.32	27	4.5	45	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	59.1	75.9	25	38	43	0.27	0.25	8	0.13	70
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	0.074	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	0.011	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	23.6	30.4	25	17	33	0.04	0.04	0	0.031	25
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	11.7	14.9	24	7.5	44	<0.08	<0.06	0	0.046	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<2.6	<3.38	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<1.04	<1.35	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<1.04	<1.35	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	232	297	25	190	20	2.51	2.55	2	1.6	44
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	14.7	20	31	11	29	0.01	0.02	67	0.012	18
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	291	376	25	230	23	0.73	0.74	1	0.54	30

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-2

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any

Table C1 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2205356	ET2205356	RN1370689	ET2205356	ET2205356	RN1370689
Field ID	0874_MW015_221011	0874_QC106_221011	0874_QC206_221011	0874_MW224_221012	0874_QC107_221012	0874_QC207_221012
Sampled Date/Time	11/10/2022 15:40	11/10/2022 15:40	11/10/2022 15:40	12/10/2022 13:30	12/10/2022 13:30	12/10/2022 13:30
Sample Type	Primary	Duplicate	Triplicate	Primary	Duplicate	Triplicate

Chemical Name	Units	EQL	ET2205356	ET2205356	RN1370689	ET2205356	ET2205356	RN1370689
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.01
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.01
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.25	<0.24	0	0.13	0	0.07
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.62	<0.6	0	<0.02	0	<0.06
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.62	<0.6	0	<0.05	0	<0.06
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.62	<0.6	0	<0.02	0	<0.06
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.62	<0.6	0	<0.05	0	<0.06
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	16.9	23	31	14	19	0.09
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	5.2	6.7	25	4.2	21	0.1
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	17.6	24.5	33	8.1	74	0.08
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	5.7	7.39	26	3.7	43	0.06
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	65.9	89	30	36	59	0.22
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	0.033	0	0.03
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	0.043	0	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	22.3	33.3	40	16	33	0.07
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	10.1	12.4	20	6.2	48	0.14
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.62	<0.6	0	<0.02	0	<0.06
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.25	<0.24	0	<0.02	0	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.25	<0.24	0	<0.01	0	<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	192	222	14	110	54	0.32
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	12.1	15.1	22	7.5	47	0.05
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	247	352	35	180	31	0.41

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-2
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any

Lab Report Number	ET2205356	ET2205356		RN1370689		ET2205495	ET2205495		RN1370689	
Field ID	0874_MW120_221013	0874_QC108_221013	RPD	0874_QC208_221013	RPD	0874_MW255_221019	0874_QC113_221019	RPD	0874_QC213_221019	RPD
Sampled Date/Time	13/10/2022 10:10	13/10/2022 10:10		13/10/2022 10:10		19/10/2022 13:46	19/10/2022 13:46		19/10/2022 13:46	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	0.014	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.93	0.86	8	1	7	<0.02	0.02	0	<0.01	0
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.3	0.3	0	0.47	44	<0.1	<0.1	0	<0.05	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.62	0.58	7	0.58	7	<0.02	<0.02	0	<0.01	0
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.28	0.25	11	0.32	13	<0.02	<0.02	0	<0.01	0
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	2.66	2.55	4	2.3	15	<0.02	<0.02	0	<0.01	0
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	1.15	1.07	7	0.87	28	<0.02	<0.02	0	<0.01	0
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.47	0.46	2	0.58	21	<0.02	<0.02	0	<0.02	0
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	13.5	11.9	13	11	20	0.02	0.02	0	<0.02	0
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.62	0.58	7	0.72	15	<0.01	<0.01	0	<0.01	0
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	9.11	8.22	10	8.5	7	0.01	0.02	67	<0.01	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-2

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any

Lab Report Number	EB2237659	EB2237659		RN1376583
Field ID	0874_MW218_221213	0874_QC151_221213	RPD	0874_QC251_221213
Sampled Date/Time	13/12/2022 9:00	13/12/2022 9:00		13/12/2022 9:00
Sample Type	Primary	Duplicate		Triplicate

Chemical Name	Units	EQL					
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.24	0.25	4	0.2	18
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	0.057	0
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.3	0.29	3	0.22	31
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.1	0.1	0	0.067	40
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	1.67	1.6	4	0.75	76
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.24	0.23	4	0.17	34
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.15	0.14	7	0.12	22
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	2.19	2.3	5	1.5	37
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.11	0.11	0	0.077	35
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	8.38	8.83	5	6	33

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-2

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any

Lab Report Number	ET2205495	ET2205495		RN1370689		ET2205495	ET2205495		RN1370689	
Field ID	0874_SW210_221014	0874_QC109_221014	RPD	0874_QC209_221014	RPD	0874_SW110_221014	0874_QC110_221014	RPD	0874_QC210_221014	RPD
Sampled Date/Time	14/10/2022 15:18	14/10/2022 15:18		14/10/2022 15:18		14/10/2022 14:04	14/10/2022 14:04		14/10/2022 14:04	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	0.41	0.41	0	0.27	41
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.05	0	0.2	0.2	0	0.14	35
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	0.18	0.18	0	0.09	67
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	0.11	0.1	10	0.065	51
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	1.14	1.14	0	0.68	51
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	0.38	0.39	3	0.26	38
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	0.23	0.21	9	0.16	36
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	<0.01	<0.01	0	<0.02	0	3.39	3.8	11	2.5	30
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	0.2	0.2	0	0.12	50
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	0	<0.01	0	3.14	3.06	3	2.3	31

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2205495	ET2205495		RN1370689		ET2205495	ET2205495		RN1370689	
Field ID	0874_SW123_221017	0874_QC112_221017	RPD	0874_QC212_221017	RPD	0874_SW126_221019	0874_QC114_221019	RPD	0874_QC214_221019	RPD
Sampled Date/Time	17/10/2022 11:42	17/10/2022 11:42		17/10/2022 11:42		19/10/2022 15:09	19/10/2022 15:09		19/10/2022 15:09	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	<0.01	0	<0.05	<0.05	0	<0.01	0
6:2 Fluorotelomer Sulfonate (6:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	0.07	0.07	0	0.058	19	<0.05	<0.05	0	<0.01	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.05 : 0.01 (Interlab)	<0.05	<0.05	0	0.021	0	<0.05	<0.05	0	<0.01	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	0	<0.05	0	<0.05	<0.05	0	<0.05	0
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.02 : 0.01 (Interlab)	0.69	0.68	1	0.52	28	0.29	0.3	3	0.22	27
Perfluorobutanoic acid (PFBA)	µg/L	0.1 : 0.05 (Interlab)	0.2	0.2	0	0.18	11	0.1	0.1	0	0.11	10
Perfluorodecanesulfonic acid (PFDS)	µg/L	0.02 : 0.01 (Interlab)	0.07	0.08	13	<0.01	150	<0.02	<0.02	0	<0.01	0
Perfluorodecanoic acid (PFDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorododecanoic acid (PFDoDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.02 : 0.01 (Interlab)	0.45	0.43	5	0.2	77	0.16	0.17	6	0.067	82
Perfluoroheptanoic acid (PFHpA)	µg/L	0.02 : 0.01 (Interlab)	0.2	0.2	0	0.12	50	0.08	0.08	0	0.043	60
Perfluorohexanoic acid (PFHxA)	µg/L	0.02 : 0.01 (Interlab)	1.5	1.57	5	0.97	43	0.81	0.82	1	0.45	57
Perfluorononanoic acid (PFNA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	0.013	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02 : 0.01 (Interlab)	0.02	0.02	0	0.011	58	<0.02	<0.02	0	<0.01	0
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.02 : 0.01 (Interlab)	0.63	0.64	2	0.46	31	0.33	0.34	3	0.19	54
Perfluoropentanoic acid (PFPeA)	µg/L	0.02	0.35	0.36	3	0.28	22	0.17	0.17	0	0.12	34
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.05 : 0.02 (Interlab)	<0.05	<0.05	0	<0.02	0	<0.05	<0.05	0	<0.02	0
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.02	<0.02	<0.02	0	<0.02	0	<0.02	<0.02	0	<0.02	0
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.02 : 0.01 (Interlab)	<0.02	<0.02	0	<0.01	0	<0.02	<0.02	0	<0.01	0
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01 : 0.02 (Interlab)	10.3	10	3	6.7	42	3.58	3.39	5	2.1	52
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.35	0.35	0	0.21	50	0.16	0.16	0	0.094	52
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	4.44	4.51	2	3	39	2.14	2.15	0	1.4	42

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Lab Report Number	ET2205248	ET2205248		RN1370689		ET2205495	ET2205495		RN1370689		ET2205495	ET2205495		RN1370689	
Field ID	0874_SD118_221007	0874_QC101_221007	RPD	0874_QC201_221007	RPD	0874_SD125_221017	0874_QC111_221017	RPD	0874_QC211_221017	RPD	0874_SD131_221019	0874_QC115_221019	RPD	0874_QC215_221019	RPD
Sampled Date/Time	7/10/2022 11:55	7/10/2022 11:55		7/10/2022 11:55		17/10/2022 11:13	17/10/2022 11:13		17/10/2022 11:13		19/10/2022 15:11	19/10/2022 15:11		19/10/2022 15:11	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL															
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0049	<0.0049	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0049	<0.0049	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0049	<0.0049	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.001	<0.0005	0	<0.002	0	<0.0123	<0.0123	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.001	<0.0005	0	<0.005	0	<0.0123	<0.0123	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.001	<0.0005	0	<0.002	0	<0.0123	<0.0123	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.001	<0.0005	0	<0.005	0	<0.0123	<0.0123	0	<0.005	0	<0.0005	<0.0005	0	<0.005	0
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0004	0.0003	0	<0.001	0	0.258	0.23	11	0.16	47	0.0003	<0.0002	40	<0.001	0
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.002	<0.001	0	<0.002	0	0.038	0.032	17	0.033	14	<0.001	<0.001	0	<0.002	0
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	0.0016	0.0009	56	0.0013	21	<0.0049	<0.0049	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0004	<0.0002	0	<0.001	0	<0.0049	<0.0049	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	0.0011	0.0009	20	0.0011	0	0.23	0.252	9	0.077	100	0.0004	<0.0002	67	<0.001	0
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0004	0.0003	0	<0.001	0	0.0868	0.0978	12	0.06	37	<0.0002	<0.0002	0	<0.001	0
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	0.0009	0.0007	25	0.0011	20	0.849	0.764	11	0.36	81	0.0009	0.0004	77	<0.001	0
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0004	<0.0002	0	<0.001	0	<0.0049	<0.0049	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0004	<0.0002	0	<0.001	0	<0.0049	<0.0049	0	0.0017	0	<0.0002	<0.0002	0	<0.001	0
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	0.0007	0.0005	33	<0.001	0	0.389	0.393	1	0.22	56	0.0004	<0.0002	67	<0.001	0
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	0.108	0.102	6	0.065	50	<0.0002	<0.0002	0	<0.002	0
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.001	<0.0005	0	<0.002	0	<0.0123	<0.0123	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0004	<0.0002	0	<0.002	0	<0.0049	<0.0049	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	0.0778	0.0586	28	0.13	50	3.18	2.32	31	2	46	0.0222	0.0128	54	0.012	60
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	0.0012	0.001	18	0.0022	59	0.159	0.181	13	0.098	47	0.0003	<0.0002	40	<0.001	0
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	0.0085	0.0059	36	0.015	55	3.54	4.08	14	2	56	0.0047	0.0018	89	0.0012	119

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL); 50 (10-20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2205495		ET2205495		RN1370689		ET2205495		ET2205495		RN1370689		EB2237659		EB2237659		RN1376583	
Field ID	0874_SD210_221014	0874_QC116_221014	0874_QC216_221014	RPD	0874_QC216_221014	RPD	0874_SD110_221014	0874_QC117_221014	RPD	0874_QC217_221014	RPD	0874_QC217_221014	RPD	0874_SD125_221212	0874_QC150_221212	RPD	0874_QC250_221212	RPD
Sampled Date/Time	14/10/2022 15:17	14/10/2022 15:17	14/10/2022 15:17		14/10/2022 15:17		14/10/2022 14:03	14/10/2022 14:03		14/10/2022 14:03		14/10/2022 14:03		12/12/2022 10:33	12/12/2022 10:33		12/12/2022 10:33	
Sample Type	Primary		Duplicate		TriPLICATE		Primary		Duplicate		TriPLICATE		Primary		Duplicate		TriPLICATE	

Chemical Name	Units	EQL	ET2205495		RN1370689		ET2205495		ET2205495		RN1370689		EB2237659		EB2237659		RN1376583	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0005	<0.0005	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0026	<0.0024	0	<0.001	0	
6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0026	<0.0024	0	<0.001	0	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005 : 0.001 (Interlab)	<0.0005	<0.0005	0	<0.001	0	<0.0005	<0.0005	0	<0.001	0	<0.0026	<0.0024	0	<0.001	0	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0064	<0.0061	0	<0.002	0	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0006	<0.0006	0	<0.005	0	<0.0064	<0.0061	0	<0.005	0	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0064	<0.0061	0	<0.002	0	
N-Methyl perfluorooctane sulfonamidoacetic acid (MFOSAA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005 : 0.005 (Interlab)	<0.0005	<0.0005	0	<0.005	0	<0.0006	<0.0006	0	<0.005	0	<0.0064	<0.0061	0	<0.005	0	
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0003	0.0007	80	<0.001	0	0.0098	0.0056	55	0.0068	36	
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	0	<0.002	0	<0.001	<0.001	0	<0.002	0	<0.013	<0.012	0	<0.002	0	
Perfluorodecanesulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	0.0505	0.0552	9	0.016	104	
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	<0.0026	<0.0024	0	<0.001	0	
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	0.0122	0.0071	53	0.007	54	
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	0.0029	<0.0024	19	<0.001	97	
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0007	0.0014	67	<0.001	0	0.024	0.0153	44	0.012	67	
Perfluorononanoic acid (PFNA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	<0.0026	<0.0024	0	<0.001	0	
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	0.0127	0.0119	7	0.0078	48	
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	0.0003	40	<0.001	0	0.0093	0.0052	57	0.0067	33	
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	0.0004	67	<0.002	0	0.0034	0.0026	27	0.002	52	
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005 : 0.002 (Interlab)	<0.0005	<0.0005	0	<0.002	0	<0.0006	<0.0006	0	<0.002	0	<0.0064	<0.0061	0	<0.002	0	
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002 : 0.002 (Interlab)	<0.0002	<0.0002	0	<0.002	0	<0.0002	<0.0002	0	<0.002	0	<0.0026	<0.0024	0	<0.002	0	
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002 : 0.002 (Interlab)	0.0004	0.001	86	<0.002	0	0.0119	0.0152	24	0.014	16	2.31	1.45	46	1.4	49	
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	<0.0002	<0.0002	0	<0.001	0	0.0044	<0.0024	59	0.0031	35	
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002 : 0.001 (Interlab)	<0.0002	<0.0002	0	<0.001	0	0.0019	0.004	71	0.0021	10	0.0931	0.0548	52	0.063	39	

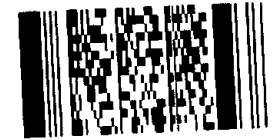
*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 200 (1-10 x EQL)
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laborato

Appendix D

Chain of Custody Records



Environmental Division
Townsville
Work Order Reference
ET2205248



Telephone +61 7 4773 3000

Custody Document for Submissions via ALS Compass App

Project: 60612487 Client: Defence Project Manager: [Redacted]

ALS Compass COC Reference: 43246 # Samples: _____ Sampler: [Redacted]

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions: <u>QLD-0874-PFASOMP)</u>	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:			
Relinquished by: <u>[Redacted]</u>	Received by: <u>[Redacted]</u>	Relinquished by:	Received by: <u>[Redacted]</u>
Date / Time: <u>10/10/22 0835</u>	Date / Time: <u>10/10/22 0835</u>	Date / Time:	Date / Time: <u>11/10/22 08:40</u>

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW223_221005		05/10/2022 09:13 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
002	0874_QC500_221005		05/10/2022 09:16 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
003	0874_MW232_221005		05/10/2022 09:45 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Extra vol for lab QC
004	0874_MW221_221005		05/10/2022 02:36 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0874_MW217_221005		05/10/2022 03:04 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
006	0874_QC300_221005		05/10/2022 04:21 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_MW207_221006		07/10/2022 03:50 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
008	0874_MW206_221006		07/10/2022 03:53 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
009	0874_MW218_221006		07/10/2022 03:55 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW216_221006		07/10/2022 03:56 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
011	0874_MW208_221006		07/10/2022 03:59 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_MW212_221006		07/10/2022 04:00 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
013	0874_MW252_221006		07/10/2022 04:02 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
014	0874_MW467_221006		07/10/2022 04:03 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
015	0874_MW225_221006		07/10/2022 04:06 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
016	0874_QC501_221007		07/10/2022 04:08 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
017	0874_MW214_221006		07/10/2022 04:10 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
018	0874_MW263_221006		07/10/2022 04:14 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW215_221006		07/10/2022 04:16 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
020	0874_MW233_221006		07/10/2022 04:18 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
021	0874_SW129_221007		07/10/2022 04:31 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
022	0874_SW118_221007		07/10/2022 04:32 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
023	0874_SW114_221007		07/10/2022 04:33 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
024	0874_SW109_221007		07/10/2022 04:34 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
025	0874_SW113_221007		07/10/2022 04:36 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
026	0874_SW021_221007		07/10/2022 04:37 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
027	0874_SW017_221007		07/10/2022 04:39 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW209_221007		07/10/2022 04:41 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
029	0874_SW170_221007		07/10/2022 04:42 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
030	0874_SW119_221007		07/10/2022 04:44 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
031	0874_SW117_221007		07/10/2022 04:45 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
032	0874_SW014_221007		07/10/2022 04:46 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
033	0874_SW115_221007		07/10/2022 04:47 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
034	0874_MW300_221007		07/10/2022 04:47 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
035	0874_QC301_221006		07/10/2022 04:50 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
036	0874_SW112_221007		07/10/2022 04:51 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_QC302_221007		07/10/2022 04:52 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
038	0874_SW127_221007		07/10/2022 04:53 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
039	0874_SD014_221007		07/10/2022 04:56 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
040	0874_SD120_221007		07/10/2022 04:57 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
041	0874_SD129_221007		07/10/2022 04:58 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
042	0874_SD021_221007		07/10/2022 04:58 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
043	0874_SD127_221007		07/10/2022 04:59 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
044	0874_SD117_221007		07/10/2022 05:00 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
045	0874_SD119_221007		07/10/2022 05:01 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_QC101_221007		07/10/2022 05:01 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
047	0874_SD017_221007		07/10/2022 05:02 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
048	0874_SD209_221007		07/10/2022 05:02 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
049	0874_SD109_221007		07/10/2022 05:03 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
050	0874_SD114_221007		07/10/2022 05:04 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
051	0874_SD115_221007		07/10/2022 05:04 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
052	0874_SD113_221007		07/10/2022 05:05 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
053	0874_SD118_221007		07/10/2022 05:05 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
054	0874_SD112_221007		07/10/2022 05:06 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW223_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC500_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW232_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW221_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW217_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_QC300_221005	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW207_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW206_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW218_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW216_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW208_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW212_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW252_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW467_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW225_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

016	0874_QC501_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW214_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW263_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW215_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW233_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SW129_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_SW118_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW114_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SW109_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_SW113_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_SW021_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SW017_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SW209_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SW170_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SW119_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_SW117_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

032	0874_SW014_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_SW115_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_MW300_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_QC301_221006	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_SW112_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_QC302_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_SW127_221007	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_SD014_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
040	0874_SD120_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
041	0874_SD129_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
042	0874_SD021_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
043	0874_SD127_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
044	0874_SD117_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
045	0874_SD119_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
046	0874_QC101_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
047	0874_SD017_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

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 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

048	0874_SD209_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
049	0874_SD109_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
050	0874_SD114_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
051	0874_SD115_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
052	0874_SD113_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
053	0874_SD118_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
054	0874_SD112_221007	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
DATE TIME:

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW223_221005	HDPE (no PTFE)	20 mL	00350621017896	Grey	No	
001	0874_MW223_221005	HDPE (no PTFE)	20 mL	00350621017935	Grey	No	
002	0874_QC500_221005	HDPE (no PTFE)	20 mL	00352010034740	Grey	No	
002	0874_QC500_221005	HDPE (no PTFE)	20 mL	00352010055393	Grey	No	
003	0874_MW232_221005	HDPE (no PTFE)	20 mL	00350621018022	Grey	No	
003	0874_MW232_221005	HDPE (no PTFE)	20 mL	00350621018024	Grey	No	
003	0874_MW232_221005	HDPE (no PTFE)	20 mL	00350621018341	Grey	No	
003	0874_MW232_221005	HDPE (no PTFE)	20 mL	00350621018218	Grey	No	
004	0874_MW221_221005	HDPE (no PTFE)	20 mL	00350621017903	Grey	No	
004	0874_MW221_221005	HDPE (no PTFE)	20 mL	00350621018132	Grey	No	
005	0874_MW217_221005	HDPE (no PTFE)	20 mL	00350621017830	Grey	No	
005	0874_MW217_221005	HDPE (no PTFE)	20 mL	00350621018097	Grey	No	
006	0874_QC300_221005	HDPE (no PTFE)	20 mL	00350621018052	Grey	No	
006	0874_QC300_221005	HDPE (no PTFE)	20 mL	00350621018335	Grey	No	
007	0874_MW207_221006	HDPE (no PTFE)	20 mL	00350621018316	Grey	No	
007	0874_MW207_221006	HDPE (no PTFE)	20 mL	00350621018262	Grey	No	
008	0874_MW206_221006	HDPE (no PTFE)	20 mL	00350621017886	Grey	No	
008	0874_MW206_221006	HDPE (no PTFE)	20 mL	00350621017842	Grey	No	
009	0874_MW218_221006	HDPE (no PTFE)	20 mL	00350621017930	Grey	No	
009	0874_MW218_221006	HDPE (no PTFE)	20 mL	00350621017877	Grey	No	
010	0874_MW216_221006	HDPE (no PTFE)	20 mL	00350621017803	Grey	No	
010	0874_MW216_221006	HDPE (no PTFE)	20 mL	00350621017957	Grey	No	
011	0874_MW208_221006	HDPE (no PTFE)	20 mL	00350621018204	Grey	No	
011	0874_MW208_221006	HDPE (no PTFE)	20 mL	00350621017793	Grey	No	
012	0874_MW212_221006	HDPE (no PTFE)	20 mL	00350621018000	Grey	No	
012	0874_MW212_221006	HDPE (no PTFE)	20 mL	00350621017850	Grey	No	

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

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 DATE TIME:

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 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

013	0874_MW252_221006	HDPE (no PTFE)	20 mL	00350621018266	Grey	No	
013	0874_MW252_221006	HDPE (no PTFE)	20 mL	00350621017996	Grey	No	
014	0874_MW467_221006	HDPE (no PTFE)	20 mL	00350621017940	Grey	No	
014	0874_MW467_221006	HDPE (no PTFE)	20 mL	00350621018087	Grey	No	
015	0874_MW225_221006	HDPE (no PTFE)	20 mL	00350621017947	Grey	No	
015	0874_MW225_221006	HDPE (no PTFE)	20 mL	00350621017868	Grey	No	
016	0874_QC501_221007	HDPE (no PTFE)	20 mL	00352010034646	Grey	No	
016	0874_QC501_221007	HDPE (no PTFE)	20 mL	00352010055363	Grey	No	
017	0874_MW214_221006	HDPE (no PTFE)	20 mL	00350621018141	Grey	No	
017	0874_MW214_221006	HDPE (no PTFE)	20 mL	00350621018167	Grey	No	
018	0874_MW263_221006	HDPE (no PTFE)	20 mL	00350621018026	Grey	No	
018	0874_MW263_221006	HDPE (no PTFE)	20 mL	00350621018015	Grey	No	
019	0874_MW215_221006	HDPE (no PTFE)	20 mL	00350621018080	Grey	No	
019	0874_MW215_221006	HDPE (no PTFE)	20 mL	00350621018060	Grey	No	
020	0874_MW233_221006	HDPE (no PTFE)	20 mL	00350621017767	Grey	No	
020	0874_MW233_221006	HDPE (no PTFE)	20 mL	00350621018009	Grey	No	
021	0874_SW129_221007	HDPE (no PTFE)	20 mL	00350621017965	Grey	No	
021	0874_SW129_221007	HDPE (no PTFE)	20 mL	00350621018072	Grey	No	
022	0874_SW118_221007	HDPE (no PTFE)	20 mL	00350621018137	Grey	No	
022	0874_SW118_221007	HDPE (no PTFE)	20 mL	00350621018258	Grey	No	
023	0874_SW114_221007	HDPE (no PTFE)	20 mL	00350621017888	Grey	No	
023	0874_SW114_221007	HDPE (no PTFE)	20 mL	00350621018047	Grey	No	
024	0874_SW109_221007	HDPE (no PTFE)	20 mL	00350621017887	Grey	No	
024	0874_SW109_221007	HDPE (no PTFE)	20 mL	00350621017844	Grey	No	
025	0874_SW113_221007	HDPE (no PTFE)	20 mL	00350621018046	Grey	No	
025	0874_SW113_221007	HDPE (no PTFE)	20 mL	00350621017839	Grey	No	
026	0874_SW021_221007	HDPE (no PTFE)	20 mL	00350621017779	Grey	No	

RELINQUISHED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

026	0874_SW021_221007	HDPE (no PTFE)	20 mL	00350621017826	Grey	No	
027	0874_SW017_221007	HDPE (no PTFE)	20 mL	00350621018025	Grey	No	
027	0874_SW017_221007	HDPE (no PTFE)	20 mL	00350621017943	Grey	No	
028	0874_SW209_221007	HDPE (no PTFE)	20 mL	00350621017859	Grey	No	
028	0874_SW209_221007	HDPE (no PTFE)	20 mL	00350621018206	Grey	No	
029	0874_SW170_221007	HDPE (no PTFE)	20 mL	00350621018272	Grey	No	
029	0874_SW170_221007	HDPE (no PTFE)	20 mL	00350621017883	Grey	No	
030	0874_SW119_221007	HDPE (no PTFE)	20 mL	00350621018170	Grey	No	
030	0874_SW119_221007	HDPE (no PTFE)	20 mL	00350621017814	Grey	No	
031	0874_SW117_221007	HDPE (no PTFE)	20 mL	00350621017786	Grey	No	
031	0874_SW117_221007	HDPE (no PTFE)	20 mL	00350621018278	Grey	No	
032	0874_SW014_221007	HDPE (no PTFE)	20 mL	00350621018299	Grey	No	
032	0874_SW014_221007	HDPE (no PTFE)	20 mL	00350621018154	Grey	No	
033	0874_SW115_221007	HDPE (no PTFE)	20 mL	00350621017754	Grey	No	
033	0874_SW115_221007	HDPE (no PTFE)	20 mL	00350621017864	Grey	No	
034	0874_MW300_221007	HDPE (no PTFE)	20 mL	00350621018271	Grey	No	
034	0874_MW300_221007	HDPE (no PTFE)	20 mL	00350621018235	Grey	No	
035	0874_QC301_221006	HDPE (no PTFE)	20 mL	00350621018338	Grey	No	
035	0874_QC301_221006	HDPE (no PTFE)	20 mL	00350621017950	Grey	No	
036	0874_SW112_221007	HDPE (no PTFE)	20 mL	00350621018296	Grey	No	
036	0874_SW112_221007	HDPE (no PTFE)	20 mL	00350621017891	Grey	No	
037	0874_QC302_221007	HDPE (no PTFE)	20 mL	00350621017831	Grey	No	
037	0874_QC302_221007	HDPE (no PTFE)	20 mL	00350621017807	Grey	No	
038	0874_SW127_221007	HDPE (no PTFE)	20 mL	00350621018119	Grey	No	
038	0874_SW127_221007	HDPE (no PTFE)	20 mL	00350621017952	Grey	No	
039	0874_SD014_221007	HDPE Soil Jar	200 mL	00621019076388	Grey	No	
040	0874_SD120_221007	HDPE Soil Jar	200 mL	00620322045867	Grey	No	

RELINQUISHED BY:
DATE TIME:

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFSOMP
 SITE: QLD_0874
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

041	0874_SD129_221007	HDPE Soil Jar	200 mL	00620719072348	Grey	No	
042	0874_SD021_221007	HDPE Soil Jar	200 mL	00620719072315	Grey	No	
043	0874_SD127_221007	HDPE Soil Jar	200 mL	00620322045846	Grey	No	
044	0874_SD117_221007	HDPE Soil Jar	200 mL	00620719072343	Grey	No	
045	0874_SD119_221007	HDPE Soil Jar	200 mL	00620719043913	Grey	No	
046	0874_QC101_221007	HDPE Soil Jar	200 mL	00621019076362	Grey	No	
047	0874_SD017_221007	HDPE Soil Jar	200 mL	00621019064280	Grey	No	
048	0874_SD209_221007	HDPE Soil Jar	200 mL	00621019076464	Grey	No	
049	0874_SD109_221007	HDPE Soil Jar	200 mL	00620322045830	Grey	No	
050	0874_SD114_221007	HDPE Soil Jar	200 mL	00620322045864	Grey	No	
051	0874_SD115_221007	HDPE Soil Jar	200 mL	00620719072347	Grey	No	
052	0874_SD113_221007	HDPE Soil Jar	200 mL	00620322045853	Grey	No	
053	0874_SD118_221007	HDPE Soil Jar	200 mL	00620719043904	Grey	No	
054	0874_SD112_221007	HDPE Soil Jar	200 mL	00620322045858	Grey	No	

Total Bottle Count: ALS: 94, Non ALS: 0

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW205_221008		10/10/2022 05:12 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
002	0874_QC100_221008		10/10/2022 05:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
003	0874_MW267_221008		10/10/2022 05:14 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
004	0874_MW211_221008		10/10/2022 05:14 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
005	0874_MW213_221008		10/10/2022 05:16 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
006	0874_MW471_221008		10/10/2022 05:17 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
007	0874_QC103_221008		10/10/2022 05:18 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
008	0874_QC303_221008		10/10/2022 05:19 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
009	0874_MW253_221008		10/10/2022 05:19 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume provided for lab.

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW264_221008		10/10/2022 05:21 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume taken for lab.
011	0874_QC102_221008		10/10/2022 05:22 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
012	0874_QC104_221010		10/10/2022 05:24 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
013	0874_MW016_221010		10/10/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
014	0874_MW046_221010		10/10/2022 05:26 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
015	0874_MW055_221010		10/10/2022 05:26 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume for lab.
016	0874_MW002_221010		10/10/2022 05:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
017	0874_MW241_221010		10/10/2022 05:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
018	0874_MW056_221010		10/10/2022 05:29 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE: [REDACTED]

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW135_221010		10/10/2022 05:30 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
020	0874_MW009_221010		10/10/2022 05:30 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
021	0874_MW004_221010		10/10/2022 05:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
022	0874_MW247_221010		10/10/2022 05:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
023	0874_QC502_221010		10/10/2022 05:34 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
024	0874_QC304_221010		10/10/2022 05:32 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
025	0874_MW021_221011		11/10/2022 05:18 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
026	0874_MW251_221011		11/10/2022 05:19 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
027	0874_MW015_221011		11/10/2022 05:20 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874_PFSOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE: [REDACTED]

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_QC106_221011		11/10/2022 05:20 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
029	0874_MW109_221011		11/10/2022 05:21 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
030	0874_MW090_221011		11/10/2022 05:22 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
031	0874_MW054_221011		11/10/2022 05:22 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume provided for lab.
032	0874_MW081_221011		11/10/2022 05:24 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
033	0874_QC105_221011		11/10/2022 05:24 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
034	0874_MW242_221011		11/10/2022 05:25 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
035	0874_MW005_221011		11/10/2022 05:26 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
036	0874_MW114_221011		11/10/2022 05:26 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

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DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SJTE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_MW122_221011		11/10/2022 05:27 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume provided for lab.
038	0874_MW246_221011		11/10/2022 05:28 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
039	0874_MW243_221011		11/10/2022 05:29 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
040	0874_MW248_221011		11/10/2022 05:29 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
041	0874_MW057_221011		11/10/2022 05:30 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
042	0874_MW038_221011		11/10/2022 05:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
043	0874_MW125_221011		11/10/2022 05:31 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
044	0874_MW136_221011		11/10/2022 05:33 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
045	0874_MW244_221011		11/10/2022 05:34 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED]

SAMPLER MOBILE [REDACTED]

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_MW043_221011		11/10/2022 05:34 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
047	0874_MW265_221011		11/10/2022 05:35 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
048	0874_QC305_221011		11/10/2022 05:36 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
049	0874_QC306_221012		12/10/2022 04:03 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
050	0874_MW245_221012		12/10/2022 04:03 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
051	0874_MW139_221012		12/10/2022 04:04 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
052	0874_MW138_221012		12/10/2022 04:05 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
053	0874_MW110_221012		12/10/2022 04:05 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
054	0874_MW224_221012		12/10/2022 04:06 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE: [REDACTED]

/ ET2021AECOMAU000

1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_MW112_221012		12/10/2022 04:07 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
056	0874_MW063_221012		12/10/2022 04:07 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
057	0874_MW222_221012		12/10/2022 04:08 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
058	0874_MW227_221012		12/10/2022 04:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
059	0874_QC107_221012		12/10/2022 04:09 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
060	0874_MW142_221012		12/10/2022 04:10 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
061	0874_MW229_221012		12/10/2022 04:11 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
062	0874_MW234_221012		12/10/2022 04:12 PM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume taken for lab.
063	0874_MW140_221012		12/10/2022 04:13 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
064	0874_MW250_221012		12/10/2022 04:14 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
065	0874_MW118_221012		12/10/2022 04:14 PM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
066	0874_MW026_221013		13/10/2022 09:49 AM	Water	ALS: 4 Non ALS: 0	No	Partial 1/4		Additional volume provided for lab
067	0874_MW120_221013		13/10/2022 10:05 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
068	0874_QC108_221013		13/10/2022 10:11 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
069	0874_MW034_221013		13/10/2022 10:26 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
070	0874_MW061_221013		13/10/2022 10:55 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		
071	0874_QC307_221013		13/10/2022 11:54 AM	Water	ALS: 2 Non ALS: 0	No	Partial 1/4		



CHAIN OF CUSTODY

COC#: 43496 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW205_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
002	0874_QC100_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW267_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW211_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW213_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW471_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_QC103_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
008	0874_QC303_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW253_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW264_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_QC102_221008	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_QC104_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW016_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW046_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW055_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SJTE: QLD_0874_PFASOMP
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

016	0874_MW002_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW241_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW056_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW135_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW009_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW004_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
022	0874_MW247_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
023	0874_QC502_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
024	0874_QC304_221010	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
025	0874_MW021_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
026	0874_MW251_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
027	0874_MW015_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_QC106_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_MW109_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
030	0874_MW090_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
031	0874_MW054_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032	0874_MW081_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_QC105_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
034	0874_MW242_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
035	0874_MW005_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
036	0874_MW114_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_MW122_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_MW246_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
039	0874_MW243_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW248_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
041	0874_MW057_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_MW038_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
043	0874_MW125_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_MW136_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
045	0874_MW244_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_MW043_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
047	0874_MW265_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE: [REDACTED]

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

048	0874_QC305_221011	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
049	0874_QC306_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW245_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_MW139_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_MW138_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW110_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_MW224_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_MW112_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_MW063_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
057	0874_MW222_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
058	0874_MW227_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_QC107_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_MW142_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_MW229_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
062	0874_MW234_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
063	0874_MW140_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

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DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE: [REDACTED]

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

064	0874_MW250_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
065	0874_MW118_221012	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
066	0874_MW026_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW120_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
068	0874_QC108_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
069	0874_MW034_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
070	0874_MW061_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
071	0874_QC307_221013	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 43496 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE: [REDACTED]

QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000

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SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW205_221008	HDPE (no PTFE)	20 mL	00350621017923	Grey	No	
001	0874_MW205_221008	HDPE (no PTFE)	20 mL	00350621017946	Grey	No	
002	0874_QC100_221008	HDPE (no PTFE)	20 mL	00350621017910	Grey	No	
002	0874_QC100_221008	HDPE (no PTFE)	20 mL	00350621017801	Grey	No	
003	0874_MW267_221008	HDPE (no PTFE)	20 mL	00350621017991	Grey	No	
003	0874_MW267_221008	HDPE (no PTFE)	20 mL	00350621017979	Grey	No	
004	0874_MW211_221008	HDPE (no PTFE)	20 mL	00350621017756	Grey	No	
004	0874_MW211_221008	HDPE (no PTFE)	20 mL	00350621018039	Grey	No	
005	0874_MW213_221008	HDPE (no PTFE)	20 mL	00350621018327	Grey	No	
005	0874_MW213_221008	HDPE (no PTFE)	20 mL	00350621018325	Grey	No	
006	0874_MW471_221008	HDPE (no PTFE)	20 mL	00350621017795	Grey	No	
006	0874_MW471_221008	HDPE (no PTFE)	20 mL	00350621017798	Grey	No	
007	0874_QC103_221008	HDPE (no PTFE)	20 mL	00350621018192	Grey	No	
007	0874_QC103_221008	HDPE (no PTFE)	20 mL	00350621017994	Grey	No	
008	0874_QC303_221008	HDPE (no PTFE)	20 mL	00350621017938	Grey	No	
008	0874_QC303_221008	HDPE (no PTFE)	20 mL	00350621017933	Grey	No	
009	0874_MW253_221008	HDPE (no PTFE)	20 mL	00350621017890	Grey	No	
009	0874_MW253_221008	HDPE (no PTFE)	20 mL	00350621018068	Grey	No	
009	0874_MW253_221008	HDPE (no PTFE)	20 mL	00350621018344	Grey	No	
009	0874_MW253_221008	HDPE (no PTFE)	20 mL	00350621018178	Grey	No	
010	0874_MW264_221008	HDPE (no PTFE)	20 mL	00350621017898	Grey	No	
010	0874_MW264_221008	HDPE (no PTFE)	20 mL	00350621018240	Grey	No	
010	0874_MW264_221008	HDPE (no PTFE)	20 mL	00350621017911	Grey	No	
010	0874_MW264_221008	HDPE (no PTFE)	20 mL	00350621018224	Grey	No	
011	0874_QC102_221008	HDPE (no PTFE)	20 mL	00350621018003	Grey	No	
011	0874_QC102_221008	HDPE (no PTFE)	20 mL	00350621017895	Grey	No	

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

012	0874_QC104_221010	HDPE (no PTFE)	20 mL	00350621018035	Grey	No	
012	0874_QC104_221010	HDPE (no PTFE)	20 mL	00350621017852	Grey	No	
013	0874_MW016_221010	HDPE (no PTFE)	20 mL	00350621018263	Grey	No	
013	0874_MW016_221010	HDPE (no PTFE)	20 mL	00350621018295	Grey	No	
014	0874_MW046_221010	HDPE (no PTFE)	20 mL	00350621017931	Grey	No	
014	0874_MW046_221010	HDPE (no PTFE)	20 mL	00350621018079	Grey	No	
015	0874_MW055_221010	HDPE (no PTFE)	20 mL	00350621018339	Grey	No	
015	0874_MW055_221010	HDPE (no PTFE)	20 mL	00350621018172	Grey	No	
015	0874_MW055_221010	HDPE (no PTFE)	20 mL	00350621017874	Grey	No	
015	0874_MW055_221010	HDPE (no PTFE)	20 mL	00350621017915	Grey	No	
016	0874_MW002_221010	HDPE (no PTFE)	20 mL	00350621018351	Grey	No	
016	0874_MW002_221010	HDPE (no PTFE)	20 mL	00350621018356	Grey	No	
017	0874_MW241_221010	HDPE (no PTFE)	20 mL	00350621017774	Grey	No	
017	0874_MW241_221010	HDPE (no PTFE)	20 mL	00350621017773	Grey	No	
018	0874_MW056_221010	HDPE (no PTFE)	20 mL	00350621018195	Grey	No	
018	0874_MW056_221010	HDPE (no PTFE)	20 mL	00350621018071	Grey	No	
019	0874_MW135_221010	HDPE (no PTFE)	20 mL	00350621017835	Grey	No	
019	0874_MW135_221010	HDPE (no PTFE)	20 mL	00350621018175	Grey	No	
020	0874_MW009_221010	HDPE (no PTFE)	20 mL	00350621018285	Grey	No	
020	0874_MW009_221010	HDPE (no PTFE)	20 mL	00350621018352	Grey	No	
021	0874_MW004_221010	HDPE (no PTFE)	20 mL	00350621018033	Grey	No	
021	0874_MW004_221010	HDPE (no PTFE)	20 mL	00350621018061	Grey	No	
022	0874_MW247_221010	HDPE (no PTFE)	20 mL	00350621018006	Grey	No	
022	0874_MW247_221010	HDPE (no PTFE)	20 mL	00350621018089	Grey	No	
023	0874_QC502_221010	HDPE (no PTFE)	20 mL	00352010034477	Grey	No	
023	0874_QC502_221010	HDPE (no PTFE)	20 mL	00352010010155	Grey	No	
024	0874_QC304_221010	HDPE (no PTFE)	20 mL	00350621018350	Grey	No	

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFSOMP

SITE: QLD_0874_PFSOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]

SAMPLER MOBILE: [REDACTED]

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

024	0874_QC304_221010	HDPE (no PTFE)	20 mL	00350621018181	Grey	No	
025	0874_MW021_221011	HDPE (no PTFE)	20 mL	00350621018093	Grey	No	
025	0874_MW021_221011	HDPE (no PTFE)	20 mL	00350621017768	Grey	No	
026	0874_MW251_221011	HDPE (no PTFE)	20 mL	00350621017813	Grey	No	
026	0874_MW251_221011	HDPE (no PTFE)	20 mL	00350621017956	Grey	No	
027	0874_MW015_221011	HDPE (no PTFE)	20 mL	00350621017847	Grey	No	
027	0874_MW015_221011	HDPE (no PTFE)	20 mL	00350621018199	Grey	No	
028	0874_QC106_221011	HDPE (no PTFE)	20 mL	00350621018282	Grey	No	
028	0874_QC106_221011	HDPE (no PTFE)	20 mL	00350621018186	Grey	No	
029	0874_MW109_221011	HDPE (no PTFE)	20 mL	00350621017885	Grey	No	
029	0874_MW109_221011	HDPE (no PTFE)	20 mL	00350621017778	Grey	No	
030	0874_MW090_221011	HDPE (no PTFE)	20 mL	00350621017993	Grey	No	
030	0874_MW090_221011	HDPE (no PTFE)	20 mL	00350621018230	Grey	No	
031	0874_MW054_221011	HDPE (no PTFE)	20 mL	00350621017929	Grey	No	
031	0874_MW054_221011	HDPE (no PTFE)	20 mL	00350621017980	Grey	No	
031	0874_MW054_221011	HDPE (no PTFE)	20 mL	00350621017812	Grey	No	
031	0874_MW054_221011	HDPE (no PTFE)	20 mL	00350621018062	Grey	No	
032	0874_MW081_221011	HDPE (no PTFE)	20 mL	00350621017764	Grey	No	
032	0874_MW081_221011	HDPE (no PTFE)	20 mL	00350621017902	Grey	No	
033	0874_QC105_221011	HDPE (no PTFE)	20 mL	00350621018103	Grey	No	
033	0874_QC105_221011	HDPE (no PTFE)	20 mL	00350621018241	Grey	No	
034	0874_MW242_221011	HDPE (no PTFE)	20 mL	00350621017791	Grey	No	
034	0874_MW242_221011	HDPE (no PTFE)	20 mL	00350621017843	Grey	No	
035	0874_MW005_221011	HDPE (no PTFE)	20 mL	00350621017901	Grey	No	
035	0874_MW005_221011	HDPE (no PTFE)	20 mL	00350621017846	Grey	No	
036	0874_MW114_221011	HDPE (no PTFE)	20 mL	00350621017932	Grey	No	
036	0874_MW114_221011	HDPE (no PTFE)	20 mL	00350621017942	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

037	0874_MW122_221011	HDPE (no PTFE)	20 mL	00350621017810	Grey	No	
037	0874_MW122_221011	HDPE (no PTFE)	20 mL	00350621018227	Grey	No	
037	0874_MW122_221011	HDPE (no PTFE)	20 mL	00350621018346	Grey	No	
037	0874_MW122_221011	HDPE (no PTFE)	20 mL	00350621018058	Grey	No	
038	0874_MW246_221011	HDPE (no PTFE)	20 mL	00350621018016	Grey	No	
038	0874_MW246_221011	HDPE (no PTFE)	20 mL	00350621017912	Grey	No	
039	0874_MW243_221011	HDPE (no PTFE)	20 mL	00350621017784	Grey	No	
039	0874_MW243_221011	HDPE (no PTFE)	20 mL	00350621018248	Grey	No	
040	0874_MW248_221011	HDPE (no PTFE)	20 mL	00350621018330	Grey	No	
040	0874_MW248_221011	HDPE (no PTFE)	20 mL	00350621018355	Grey	No	
041	0874_MW057_221011	HDPE (no PTFE)	20 mL	00350621018064	Grey	No	
041	0874_MW057_221011	HDPE (no PTFE)	20 mL	00350621018002	Grey	No	
042	0874_MW038_221011	HDPE (no PTFE)	20 mL	00350621017899	Grey	No	
042	0874_MW038_221011	HDPE (no PTFE)	20 mL	00350621017995	Grey	No	
043	0874_MW125_221011	HDPE (no PTFE)	20 mL	00350621017836	Grey	No	
043	0874_MW125_221011	HDPE (no PTFE)	20 mL	00350621017845	Grey	No	
044	0874_MW136_221011	HDPE (no PTFE)	20 mL	00350621018073	Grey	No	
044	0874_MW136_221011	HDPE (no PTFE)	20 mL	00350621018054	Grey	No	
045	0874_MW244_221011	HDPE (no PTFE)	20 mL	00350621018066	Grey	No	
045	0874_MW244_221011	HDPE (no PTFE)	20 mL	00350621018314	Grey	No	
046	0874_MW043_221011	HDPE (no PTFE)	20 mL	00350621017822	Grey	No	
046	0874_MW043_221011	HDPE (no PTFE)	20 mL	00350621018091	Grey	No	
047	0874_MW265_221011	HDPE (no PTFE)	20 mL	00350621018063	Grey	No	
047	0874_MW265_221011	HDPE (no PTFE)	20 mL	00350621018053	Grey	No	
048	0874_QC305_221011	HDPE (no PTFE)	20 mL	00350621018337	Grey	No	
048	0874_QC305_221011	HDPE (no PTFE)	20 mL	00350621018275	Grey	No	
049	0874_QC306_221012	HDPE (no PTFE)	20 mL	00350621017981	Grey	No	

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

049	0874_QC306_221012	HDPE (no PTFE)	20 mL	00350621017871	Grey	No	
050	0874_MW245_221012	HDPE (no PTFE)	20 mL	00350621017973	Grey	No	
050	0874_MW245_221012	HDPE (no PTFE)	20 mL	00350621017834	Grey	No	
051	0874_MW139_221012	HDPE (no PTFE)	20 mL	00350621018336	Grey	No	
051	0874_MW139_221012	HDPE (no PTFE)	20 mL	00350621018171	Grey	No	
052	0874_MW138_221012	HDPE (no PTFE)	20 mL	00350621018055	Grey	No	
052	0874_MW138_221012	HDPE (no PTFE)	20 mL	00350621018027	Grey	No	
053	0874_MW110_221012	HDPE (no PTFE)	20 mL	00350621017820	Grey	No	
053	0874_MW110_221012	HDPE (no PTFE)	20 mL	00350621017799	Grey	No	
054	0874_MW224_221012	HDPE (no PTFE)	20 mL	00350621018284	Grey	No	
054	0874_MW224_221012	HDPE (no PTFE)	20 mL	00350621018189	Grey	No	
055	0874_MW112_221012	HDPE (no PTFE)	20 mL	00350621018270	Grey	No	
055	0874_MW112_221012	HDPE (no PTFE)	20 mL	00350621018253	Grey	No	
056	0874_MW063_221012	HDPE (no PTFE)	20 mL	00350621018312	Grey	No	
056	0874_MW063_221012	HDPE (no PTFE)	20 mL	00350621018057	Grey	No	
057	0874_MW222_221012	HDPE (no PTFE)	20 mL	00350621018138	Grey	No	
057	0874_MW222_221012	HDPE (no PTFE)	20 mL	00350621018126	Grey	No	
058	0874_MW227_221012	HDPE (no PTFE)	20 mL	00350621017788	Grey	No	
058	0874_MW227_221012	HDPE (no PTFE)	20 mL	00350621018107	Grey	No	
059	0874_QC107_221012	HDPE (no PTFE)	20 mL	00350621018099	Grey	No	
059	0874_QC107_221012	HDPE (no PTFE)	20 mL	00350621018104	Grey	No	
060	0874_MW142_221012	HDPE (no PTFE)	20 mL	00350621017905	Grey	No	
060	0874_MW142_221012	HDPE (no PTFE)	20 mL	00350621018056	Grey	No	
061	0874_MW229_221012	HDPE (no PTFE)	20 mL	00350621017986	Grey	No	
061	0874_MW229_221012	HDPE (no PTFE)	20 mL	00350621017881	Grey	No	
062	0874_MW234_221012	HDPE (no PTFE)	20 mL	00350621017780	Grey	No	
062	0874_MW234_221012	HDPE (no PTFE)	20 mL	00350621017808	Grey	No	

**CHAIN OF CUSTODY**

COC#: 43496

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: QLD_0874_PFASOMP

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE: [REDACTED]

QUOTE NO: TV/007/21 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

062	0874_MW234_221012	HDPE (no PTFE)	20 mL	00350621017781	Grey	No	
062	0874_MW234_221012	HDPE (no PTFE)	20 mL	00350621018287	Grey	No	
063	0874_MW140_221012	HDPE (no PTFE)	20 mL	00350621018007	Grey	No	
063	0874_MW140_221012	HDPE (no PTFE)	20 mL	00350621017904	Grey	No	
064	0874_MW250_221012	HDPE (no PTFE)	20 mL	00350621018069	Grey	No	
064	0874_MW250_221012	HDPE (no PTFE)	20 mL	00350621017953	Grey	No	
065	0874_MW118_221012	HDPE (no PTFE)	20 mL	00350621017790	Grey	No	
065	0874_MW118_221012	HDPE (no PTFE)	20 mL	00350621017782	Grey	No	
066	0874_MW026_221013	HDPE (no PTFE)	20 mL	00350621018320	Grey	No	
066	0874_MW026_221013	HDPE (no PTFE)	20 mL	00350621017872	Grey	No	
066	0874_MW026_221013	HDPE (no PTFE)	20 mL	00350621017815	Grey	No	
066	0874_MW026_221013	HDPE (no PTFE)	20 mL	00350621017913	Grey	No	
067	0874_MW120_221013	HDPE (no PTFE)	20 mL	00350621017919	Grey	No	
067	0874_MW120_221013	HDPE (no PTFE)	20 mL	00350621018037	Grey	No	
068	0874_QC108_221013	HDPE (no PTFE)	20 mL	00350621018251	Grey	No	
068	0874_QC108_221013	HDPE (no PTFE)	20 mL	00350621018202	Grey	No	
069	0874_MW034_221013	HDPE (no PTFE)	20 mL	00350621018349	Grey	No	
069	0874_MW034_221013	HDPE (no PTFE)	20 mL	00350621017977	Grey	No	
070	0874_MW061_221013	HDPE (no PTFE)	20 mL	00350621017988	Grey	No	
070	0874_MW061_221013	HDPE (no PTFE)	20 mL	00350621017806	Grey	No	
071	0874_QC307_221013	HDPE (no PTFE)	20 mL	00350621017794	Grey	No	
071	0874_QC307_221013	HDPE (no PTFE)	20 mL	00350621018257	Grey	No	

Total Bottle Count: ALS: 156, Non ALS: 0



ALS Compass
SAMPLING *Intelligence*



Telephone: +61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: PFAS DMP RAAF Client: (Defence) AECOM Project Manager: [Redacted]
Phone: ([Redacted])

ALS Compass COC Reference: 43667 # Samples: 2x Esky Sampler: [Redacted]
Phone: ([Redacted])

Turnaround Requirements: Standard _____ Urgent _____

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?		°C

Custody:		Custody:	
Relinquished by:	Received by:	Relinquished by:	Received by:
[Redacted]	[Redacted]		
Date / Time:	Date / Time:	Date / Time:	Date / Time:
19/10/22 1655	19/10/22 1655		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SD201_221014		14/10/2022 09:39 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
002	0874_SW201_221014		14/10/2022 10:20 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Additional volume taken for lab.
003	0874_SD116_221014		14/10/2022 10:47 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
004	0874_SW116_221014		14/10/2022 10:48 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
005	0874_SD208_221014		14/10/2022 11:29 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
006	0874_SW208_221014		14/10/2022 11:31 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
007	0874_SD107_221014		14/10/2022 12:22 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
008	0874_SD110_221014		14/10/2022 01:03 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
009	0874_QC117_221014		14/10/2022 01:04 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

SAMPLE DETAILS **ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW110_221014		14/10/2022 01:04 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
011	0874_QC110_221014		14/10/2022 01:05 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
012	0874_SD111_221014		14/10/2022 01:33 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_SW111_221014		14/10/2022 01:33 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
014	0874_SD210_221014		14/10/2022 02:17 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
015	0874_QC116_221014		14/10/2022 02:18 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
016	0874_SW210_221014		14/10/2022 02:18 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
017	0874_QC109_221014		14/10/2022 02:19 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
018	0874_SD108_221014		14/10/2022 02:42 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			

**CHAIN OF CUSTODY**

COC#: 43667

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
019	0874_SW108_221014		14/10/2022 02:43 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
020	0874_QC308_221014		14/10/2022 02:44 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
021	0874_SD102_221017		17/10/2022 08:40 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
022	0874_SD013_221017		17/10/2022 09:08 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
023	0874_SD016_221017		17/10/2022 09:27 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
024	0874_SD125_221017		17/10/2022 10:13 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
025	0874_QC111_221017		17/10/2022 10:14 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
026	0874_SD123_221017		17/10/2022 10:41 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
027	0874_SW123_221017		17/10/2022 10:42 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

CHAIN OF CUSTODY
 (ALS) COC#: 43667 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_QC112_221017		17/10/2022 10:43 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
029	0874_SD019_221017		17/10/2022 10:57 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
030	0874_SD001_221017		17/10/2022 11:23 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
031	0874_SD106_221017		17/10/2022 12:18 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
032	0874_SW106_221017		17/10/2022 12:18 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
033	0874_SD132_221017		17/10/2022 01:00 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
034	0874_SD121_221017		17/10/2022 01:04 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
035	0874_SD010_221017		17/10/2022 01:46 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
036	0874_SW010_221017		17/10/2022 01:46 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_QC309_221017		17/10/2022 01:51 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
038	0874_SD202_221018		18/10/2022 08:49 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
039	0874_SW202_221018		18/10/2022 08:50 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
040	0874_SD205_221018		18/10/2022 09:39 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
041	0874_SW205_221018		18/10/2022 09:40 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
042	0874_SD206_221018		18/10/2022 10:02 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
043	0874_SW206_221018		18/10/2022 10:03 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
044	0874_SD207_221018		18/10/2022 10:21 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
045	0874_SW207_221018		18/10/2022 10:22 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:
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CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1
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 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SD203_221018		18/10/2022 10:51 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
047	0874_SW203_221018		18/10/2022 10:51 AM	Water	ALS: 4 Non ALS: 0	No		Partial 1/4		Additional volume for lab.
048	0874_SD204_221018		18/10/2022 11:09 AM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
049	0874_SW204_221018		18/10/2022 11:10 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
050	0874_QC310_221018		18/10/2022 11:47 AM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
051	0874_MW255_221019		19/10/2022 12:46 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
052	0874_QC113_221019		19/10/2022 12:47 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
053	0874_MW013_221019		19/10/2022 01:26 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
054	0874_SW126_221019		19/10/2022 02:09 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43667 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

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DATE TIME:

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DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_QC114_221019		19/10/2022 02:10 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
056	0874_SD131_221019		19/10/2022 02:11 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
057	0874_QC115_221019		19/10/2022 02:12 PM	Soil	ALS: 1 Non ALS: 0	No	Partial 1/4			
058	0874_SW131_221019		19/10/2022 02:31 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
059	0874_MW226_221019		19/10/2022 04:26 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
060	0874_QC311_221019		19/10/2022 04:36 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		
061	0874_QC503_221019		19/10/2022 04:37 PM	Water	ALS: 2 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 43667

ALS Laboratory: ET Townsville

RELINQUISHED BY:

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CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

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EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SD201_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
002	0874_SW201_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SD116_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
004	0874_SW116_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SD208_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
006	0874_SW208_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SD107_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
008	0874_SD110_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
009	0874_QC117_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
010	0874_SW110_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
011	0874_QC110_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SD111_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_SW111_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SD210_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
015	0874_QC116_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 43667

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016	0874_SW210_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
017	0874_QC109_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SD108_221014	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
019	0874_SW108_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC308_221014	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SD102_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_SD013_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
023	0874_SD016_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
024	0874_SD125_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
025	0874_QC111_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
026	0874_SD123_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
027	0874_SW123_221017	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
028	0874_QC112_221017	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SD019_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
030	0874_SD001_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
031	0874_SD106_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 43667

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

032	0874_SW106_221017	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
033	0874_SD132_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
034	0874_SD121_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
035	0874_SD010_221017	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
036	0874_SW010_221017	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
037	0874_QC309_221017	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
038	0874_SD202_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
039	0874_SW202_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
040	0874_SD205_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
041	0874_SW205_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
042	0874_SD206_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
043	0874_SW206_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
044	0874_SD207_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
045	0874_SW207_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
046	0874_SD203_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
047	0874_SW203_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PASOMP
 SITE: 0874_PASOMP_RAAF
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

048	0874_SD204_221018	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
049	0874_SW204_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
050	0874_QC310_221018	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
051	0874_MW255_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
052	0874_QC113_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW013_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
054	0874_SW126_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
055	0874_QC114_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
056	0874_SD131_221019	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
057	0874_QC115_221019	Sediments SEDIMENT	Soil	- EP231X (solids) PFAS - Full Suite (28 analytes)
058	0874_SW131_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
059	0874_MW226_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
060	0874_QC311_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)
061	0874_QC503_221019	Waters WATER	Water	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH: SAMPLER MOBILE:
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SD201_221014	HDPE Soil Jar	200 mL	00621019076462	Grey	No	
002	0874_SW201_221014	HDPE (no PTFE)	20 mL	00350621017796	Grey	No	
002	0874_SW201_221014	HDPE (no PTFE)	20 mL	00350621018243	Grey	No	
002	0874_SW201_221014	HDPE (no PTFE)	20 mL	00350621018040	Grey	No	
002	0874_SW201_221014	HDPE (no PTFE)	20 mL	00350621017805	Grey	No	
003	0874_SD116_221014	HDPE Soil Jar	200 mL	00621019064229	Grey	No	
004	0874_SW116_221014	HDPE (no PTFE)	20 mL	00350621018274	Grey	No	
004	0874_SW116_221014	HDPE (no PTFE)	20 mL	00350621018326	Grey	No	
005	0874_SD208_221014	HDPE Soil Jar	200 mL	00620719072436	Grey	No	
006	0874_SW208_221014	HDPE (no PTFE)	20 mL	00350621018092	Grey	No	
006	0874_SW208_221014	HDPE (no PTFE)	20 mL	00350621018277	Grey	No	
007	0874_SD107_221014	HDPE Soil Jar	200 mL	00621019064246	Grey	No	
008	0874_SD110_221014	HDPE Soil Jar	200 mL	00620719072308	Grey	No	
009	0874_QC117_221014	HDPE Soil Jar	200 mL	00620719072331	Grey	No	
010	0874_SW110_221014	HDPE (no PTFE)	20 mL	00350621017997	Grey	No	
010	0874_SW110_221014	HDPE (no PTFE)	20 mL	00350621018122	Grey	No	
011	0874_QC110_221014	HDPE (no PTFE)	20 mL	00350621018011	Grey	No	
011	0874_QC110_221014	HDPE (no PTFE)	20 mL	00350621017970	Grey	No	
012	0874_SD111_221014	HDPE Soil Jar	200 mL	00620719072394	Grey	No	
013	0874_SW111_221014	HDPE (no PTFE)	20 mL	00350621018110	Grey	No	
013	0874_SW111_221014	HDPE (no PTFE)	20 mL	00350621018131	Grey	No	
014	0874_SD210_221014	HDPE Soil Jar	200 mL	00620719072398	Grey	No	
015	0874_QC116_221014	HDPE Soil Jar	200 mL	00620719072342	Grey	No	
016	0874_SW210_221014	HDPE (no PTFE)	20 mL	00350621017892	Grey	No	
016	0874_SW210_221014	HDPE (no PTFE)	20 mL	00350621017828	Grey	No	
017	0874_QC109_221014	HDPE (no PTFE)	20 mL	00350621018133	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: TV/007/21 - Compass

SAMPLER MOBILE:

/ ET2021AECOMAU000

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

017	0874_QC109_221014	HDPE (no PTFE)	20 mL	00350621018018	Grey	No	
018	0874_SD108_221014	HDPE Soil Jar	200 mL	00620719072321	Grey	No	
019	0874_SW108_221014	HDPE (no PTFE)	20 mL	00350621018065	Grey	No	
019	0874_SW108_221014	HDPE (no PTFE)	20 mL	00350621018223	Grey	No	
020	0874_QC308_221014	HDPE (no PTFE)	20 mL	00350621017927	Grey	No	
020	0874_QC308_221014	HDPE (no PTFE)	20 mL	00350621018329	Grey	No	
021	0874_SD102_221017	HDPE Soil Jar	200 mL	00621019064197	Grey	No	
022	0874_SD013_221017	HDPE Soil Jar	200 mL	00620719043933	Grey	No	
023	0874_SD016_221017	HDPE Soil Jar	200 mL	00620719026161	Grey	No	
024	0874_SD125_221017	HDPE Soil Jar	200 mL	00620719071613	Grey	No	
025	0874_QC111_221017	HDPE Soil Jar	200 mL	00620719086096	Grey	No	
026	0874_SD123_221017	HDPE Soil Jar	200 mL	00621019076453	Grey	No	
027	0874_SW123_221017	HDPE (no PTFE)	20 mL	00350621018004	Grey	No	
027	0874_SW123_221017	HDPE (no PTFE)	20 mL	00350621017944	Grey	No	
028	0874_QC112_221017	HDPE (no PTFE)	20 mL	00350621017818	Grey	No	
028	0874_QC112_221017	HDPE (no PTFE)	20 mL	00350621017759	Grey	No	
029	0874_SD019_221017	HDPE Soil Jar	200 mL	00620719071601	Grey	No	
030	0874_SD001_221017	HDPE Soil Jar	200 mL	00620719086049	Grey	No	
031	0874_SD106_221017	HDPE Soil Jar	200 mL	00621019064211	Grey	No	
032	0874_SW106_221017	HDPE (no PTFE)	20 mL	00350621017984	Grey	No	
032	0874_SW106_221017	HDPE (no PTFE)	20 mL	00350621017827	Grey	No	
033	0874_SD132_221017	HDPE Soil Jar	200 mL	00621019064170	Grey	No	
034	0874_SD121_221017	HDPE Soil Jar	200 mL	00620719072320	Grey	No	
035	0874_SD010_221017	HDPE Soil Jar	200 mL	00620719071681	Grey	No	
036	0874_SW010_221017	HDPE (no PTFE)	20 mL	00350621017951	Grey	No	
036	0874_SW010_221017	HDPE (no PTFE)	20 mL	00350621017961	Grey	No	
037	0874_QC309_221017	HDPE (no PTFE)	20 mL	00350621018328	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd

PROJECT: QLD_0874_PFASOMP

SITE: 0874_PFAS OMP_RAAF

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED] SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

037	0874_QC309_221017	HDPE (no PTFE)	20 mL	00350621018333	Grey	No	
038	0874_SD202_221018	HDPE Soil Jar	200 mL	00620719071559	Grey	No	
039	0874_SW202_221018	HDPE (no PTFE)	20 mL	00350821027854	Grey	No	
039	0874_SW202_221018	HDPE (no PTFE)	20 mL	00350821027517	Grey	No	
040	0874_SD205_221018	HDPE Soil Jar	200 mL	00620322045840	Grey	No	
041	0874_SW205_221018	HDPE (no PTFE)	20 mL	00350821027480	Grey	No	
041	0874_SW205_221018	HDPE (no PTFE)	20 mL	00350821027638	Grey	No	
042	0874_SD206_221018	HDPE Soil Jar	200 mL	00620322045854	Grey	No	
043	0874_SW206_221018	HDPE (no PTFE)	20 mL	00352010065480	Grey	No	
043	0874_SW206_221018	HDPE (no PTFE)	20 mL	00352010065460	Grey	No	
044	0874_SD207_221018	HDPE Soil Jar	200 mL	00620719072352	Grey	No	
045	0874_SW207_221018	HDPE (no PTFE)	20 mL	00350821027895	Grey	No	
045	0874_SW207_221018	HDPE (no PTFE)	20 mL	00350821027522	Grey	No	
046	0874_SD203_221018	HDPE Soil Jar	200 mL	00621019076379	Grey	No	
047	0874_SW203_221018	HDPE (no PTFE)	20 mL	00352101052853	Grey	No	
047	0874_SW203_221018	HDPE (no PTFE)	20 mL	00352101033539	Grey	No	
047	0874_SW203_221018	HDPE (no PTFE)	20 mL	00352010065442	Grey	No	
047	0874_SW203_221018	HDPE (no PTFE)	20 mL	00352010065511	Grey	No	
048	0874_SD204_221018	HDPE Soil Jar	200 mL	00620719072337	Grey	No	
049	0874_SW204_221018	HDPE (no PTFE)	20 mL	00350621017829	Grey	No	
049	0874_SW204_221018	HDPE (no PTFE)	20 mL	00350621017840	Grey	No	
050	0874_QC310_221018	HDPE (no PTFE)	20 mL	00350621017969	Grey	No	
050	0874_QC310_221018	HDPE (no PTFE)	20 mL	00350621017787	Grey	No	
051	0874_MW255_221019	HDPE (no PTFE)	20 mL	00352010065515	Grey	No	
051	0874_MW255_221019	HDPE (no PTFE)	20 mL	00352010065674	Grey	No	
052	0874_QC113_221019	HDPE (no PTFE)	20 mL	00352010065529	Grey	No	
052	0874_QC113_221019	HDPE (no PTFE)	20 mL	00352010065437	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM Australia Pty Ltd
 PROJECT: QLD_0874_PFASOMP
 SITE: 0874_PFAS OMP_RAAF
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: SAMPLER MOBILE: [REDACTED]
 QUOTE NO: TV/007/21 - Compass / ET2021AECOMAU000
 1

053	0874_MW013_221019	HDPE (no PTFE)	20 mL	00350821027851	Grey	No	
053	0874_MW013_221019	HDPE (no PTFE)	20 mL	00350821027710	Grey	No	
054	0874_SW126_221019	HDPE (no PTFE)	20 mL	00350621018302	Grey	No	
054	0874_SW126_221019	HDPE (no PTFE)	20 mL	00350621018290	Grey	No	
055	0874_QC114_221019	HDPE (no PTFE)	20 mL	00350621018159	Grey	No	
055	0874_QC114_221019	HDPE (no PTFE)	20 mL	00350621018260	Grey	No	
056	0874_SD131_221019	HDPE Soil Jar	200 mL	00620719072384	Grey	No	
057	0874_QC115_221019	HDPE Soil Jar	200 mL	00620719071550	Grey	No	
058	0874_SW131_221019	HDPE (no PTFE)	20 mL	00350621017860	Grey	No	
058	0874_SW131_221019	HDPE (no PTFE)	20 mL	00350621018008	Grey	No	
059	0874_MW226_221019	HDPE (no PTFE)	20 mL	00350621018239	Grey	No	
059	0874_MW226_221019	HDPE (no PTFE)	20 mL	00350621018142	Grey	No	
060	0874_QC311_221019	HDPE (no PTFE)	20 mL	00350621017870	Grey	No	
060	0874_QC311_221019	HDPE (no PTFE)	20 mL	00350621017894	Grey	No	
061	0874_QC503_221019	HDPE (no PTFE)	20 mL	00352010034668	Grey	No	
061	0874_QC503_221019	HDPE (no PTFE)	20 mL	00352010034536	Grey	No	

Total Bottle Count: ALS: 96, Non ALS: 0

AEC008/221021 ✓ 28/10

ANZ
FQM - Generic Chain of Custody Form

Q4AN(EV)-007-FM1

CONSULTANT: AECOM Australia Pty Ltd		ADDRESS Level 5, 7-9 Tomlins Street, South Townsville		SAMPLER: [REDACTED]		Destination Laboratory NMI - Sydney	
PROJECT MANAGER (PM): [REDACTED]		SITE: RAAF TSV		MOBILE: [REDACTED]		PHONE: [REDACTED]	
PROJECT NUMBER & TASK COI 60612487_2.1		P.O. NO.:		EMAIL REPORT TO: [REDACTED]			
RESULTS REQUIRED (Date): 5 day turn around time		QUOTE NO.:		ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)			
FOR LABORATORY USE ONLY		COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:				Notes: e.g. Highly contaminated sample e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.	
COOLER SEAL (circle appropriate)							
Intact: Yes No N/A							
SAMPLE TEMPERATURE							
CHILLED: Yes No							
SAMPLE INFORMATION (note: S = Soil, W=Water)				CONTAINER INFORMATION			
ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
	0874-QC201-221007	soil	7/10/22		Jar	1	X
	0874-QC202-221008	W	8/10/22		PFAS bottle	1	X
	0874-QC203-221008	W	8/10/22		PFAS bottle	1	X
	0874-QC204-221010	W	10/10/22		PFAS bottle	1	X
	0874-QC205-221011	W	11/10/22		PFAS bottle	1	X
	0874-QC206-221011	W	11/10/22		PFAS bottle	1	X
	0874-QC207-221012	W	12/10/22		PFAS bottle	1	X
	0874-QC208-221013	W	13/10/22		PFAS bottle	1	X
	0874-QC209-221014	W	14/10/22		PFAS bottle	1	X
	0874-QC216-221014	soil	14/10/22		Jar	1	X
	0874-QC210-221014	W	14/10/22		PFAS bottle	1	X
	0874-QC217-221014	soil	14/10/22		Jar	1	X
	0874-QC211-221017	soil	17/10/22		Jar	1	X
	0874-QC212-221017	W	17/10/22		PFAS bottle	1	X
	0874-QC213-221019	W	19/10/22		PFAS bottle	1	X
	0874-QC214-221019	W	19/10/22		PFAS bottle	1	X
	0874-QC215-221019	soil	19/10/22		Jar	1	X
RELINQUISHED BY:		RECEIVED BY		RECEIVED BY		METHOD OF SHIPMENT	
Name:	[REDACTED]	Name:	[REDACTED]	Name:	[REDACTED]	Con' Note No:	
Date:	20/10/22	Date:		Date:		Transport Co:	
Of:	AECOM	Of:		Of:			
	Time: 5pm						

RECEIVED
21 OCT 2022
BY: [REDACTED] 900 C

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag. Soil Container Codes: Jar = Unpreserved glass jar

Appendix E

Laboratory Analytical Reports

CERTIFICATE OF ANALYSIS

Work Order : **ET2205248**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFASOMP**
Order number : **60612487_2.1**
C-O-C number : **43246**
Sampler : [REDACTED]
Site : **QLD_0874**
Quote number : **TV/007/21 v2 - Compass**
No. of samples received : **54**
No. of samples analysed : **54**

Page : 1 of 27
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 11-Oct-2022 08:40
Date Analysis Commenced : 13-Oct-2022
Issue Date : 24-Oct-2022 09:32



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
[REDACTED]	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X: Particular samples (ET2205248), LOR has been raised due to the high moisture content
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X: Poor matrix spike recovery for sample ET2205248-040 due to sample matrix interference. Confirmed by re-analysis.
- EP231X: Sample ET2205248-028 required dilution due to matrix interferences. LOR values have been adjusted accordingly.
- Amendment (19/10/2022): This report has been amended following the request for updated Sampling date for sample 035.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD014_221007	0874_SD120_221007	0874_SD129_221007	0874_SD021_221007	0874_SD127_221007
Sampling date / time				07-Oct-2022 08:55	07-Oct-2022 10:35	07-Oct-2022 09:30	07-Oct-2022 10:50	07-Oct-2022 10:00	
Compound	CAS Number	LOR	Unit	ET2205248-039	ET2205248-040	ET2205248-041	ET2205248-042	ET2205248-043	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	77.5	55.3	26.0	62.9	36.2	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0015	0.0004	<0.0002	0.0004	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0134	0.0029	<0.0002	0.0024	0.0014	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	<0.001	<0.002	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0005	0.0002	<0.0002	<0.0004	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0005	0.0002	<0.0002	<0.0004	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	0.0008	<0.0002	<0.0004	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	0.0003	<0.0002	<0.0004	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	0.0006	<0.0005	<0.0009	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0009	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD014_221007	0874_SD120_221007	0874_SD129_221007	0874_SD021_221007	0874_SD127_221007
Sampling date / time				07-Oct-2022 08:55	07-Oct-2022 10:35	07-Oct-2022 09:30	07-Oct-2022 10:50	07-Oct-2022 10:00	
Compound	CAS Number	LOR	Unit	ET2205248-039	ET2205248-040	ET2205248-041	ET2205248-042	ET2205248-043	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0009	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0009	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0005	<0.0005	<0.0009	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0002	<0.0004	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0149	0.0054	<0.0002	0.0028	0.0014	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0149	0.0033	<0.0002	0.0028	0.0014	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0149	0.0035	<0.0002	0.0028	0.0014	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	141	84.6	98.0	97.8	99.5	
13C8-PFOA	----	0.0002	%	75.0	75.4	83.2	77.2	84.2	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_221007	0874_SD119_221007	0874_QC101_221007	0874_SD017_221007	0874_SD209_221007
Sampling date / time				07-Oct-2022 11:35	07-Oct-2022 11:25	07-Oct-2022 11:55	07-Oct-2022 10:20	07-Oct-2022 12:55	
Compound	CAS Number	LOR	Unit	ET2205248-044	ET2205248-045	ET2205248-046	ET2205248-047	ET2205248-048	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	12.6	4.9	47.1	46.0	62.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0003	<0.0002	0.0003	<0.0002	<0.0004	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0005	<0.0002	<0.0004	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0018	<0.0002	0.0059	<0.0002	0.0035	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0003	<0.0002	0.0009	<0.0002	<0.0004	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0293	0.0030	0.0586	<0.0002	0.0109	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0012	<0.0002	0.0009	<0.0002	<0.0004	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.002	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0002	<0.0002	0.0007	<0.0002	<0.0004	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0003	<0.0002	<0.0004	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0010	<0.0002	<0.0004	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0009	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0009	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD117_221007	0874_SD119_221007	0874_QC101_221007	0874_SD017_221007	0874_SD209_221007
Sampling date / time				07-Oct-2022 11:35	07-Oct-2022 11:25	07-Oct-2022 11:55	07-Oct-2022 10:20	07-Oct-2022 12:55	
Compound	CAS Number	LOR	Unit	ET2205248-044	ET2205248-045	ET2205248-046	ET2205248-047	ET2205248-048	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0009	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0009	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0009	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0333	0.0030	0.0691	<0.0002	0.0144	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0311	0.0030	0.0645	<0.0002	0.0144	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0316	0.0030	0.0668	<0.0002	0.0144	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	89.2	90.8	112	89.8	109	
13C8-PFOA	----	0.0002	%	86.0	89.2	87.2	77.5	81.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD109_221007	0874_SD114_221007	0874_SD115_221007	0874_SD113_221007	0874_SD118_221007
Sampling date / time					07-Oct-2022 14:00	07-Oct-2022 13:25	07-Oct-2022 12:05	07-Oct-2022 12:25	07-Oct-2022 11:55
Compound	CAS Number	LOR	Unit	ET2205248-049	ET2205248-050	ET2205248-051	ET2205248-052	ET2205248-053	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	45.2	22.9	39.9	82.1	56.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0002	<0.0002	0.0031	<0.0004	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0040	0.0007	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0006	0.0004	0.0428	0.0085	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0041	0.0011	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0035	0.0018	0.0091	0.162	0.0778	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	0.0016	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.005	<0.002	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0031	<0.0004	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0058	0.0009	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0022	0.0012	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0024	<0.0010	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0024	<0.0010	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD109_221007	0874_SD114_221007	0874_SD115_221007	0874_SD113_221007	0874_SD118_221007
Sampling date / time					07-Oct-2022 14:00	07-Oct-2022 13:25	07-Oct-2022 12:05	07-Oct-2022 12:25	07-Oct-2022 11:55
Compound	CAS Number	LOR	Unit	ET2205248-049	ET2205248-050	ET2205248-051	ET2205248-052	ET2205248-053	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0024	<0.0010	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0024	<0.0010	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0024	<0.0010	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0010	<0.0004	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0035	0.0026	0.0095	0.227	0.0918	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0035	0.0024	0.0095	0.205	0.0863	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0035	0.0026	0.0095	0.219	0.0884	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	105	94.2	91.8	96.5	120	
13C8-PFOA	----	0.0002	%	90.2	95.0	86.2	82.8	95.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_SD112_221007	----	----	----	----
		Sampling date / time		07-Oct-2022 08:35	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2205248-054	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	41.9	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0011	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0874_SD112_221007	----	----	----	----
Sampling date / time			07-Oct-2022 08:35	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2205248-054	-----	-----	-----	-----
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.0002	mg/kg	0.0011	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0011	----	----	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0011	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.0002	%	88.8	----	----	----	----
13C8-PFOA	----	0.0002	%	91.5	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW223_221005	0874_QC500_221005	0874_MW232_221005	0874_MW221_221005	0874_MW217_221005
Sampling date / time				05-Oct-2022 08:55	05-Oct-2022 00:00	05-Oct-2022 09:30	05-Oct-2022 14:30	05-Oct-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2205248-001	ET2205248-002	ET2205248-003	ET2205248-004	ET2205248-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.38	<0.02	0.28	0.26	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.39	<0.02	0.27	0.18	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.84	<0.01	2.05	1.10	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	<0.02	0.16	0.04	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	7.12	<0.01	5.72	0.41	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.23	<0.02	0.11	0.04	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.06	<0.02	0.38	0.27	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.15	<0.02	0.07	0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.22	<0.01	0.15	0.04	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW223_221005	0874_QC500_221005	0874_MW232_221005	0874_MW221_221005	0874_MW217_221005
Sampling date / time				05-Oct-2022 08:55	05-Oct-2022 00:00	05-Oct-2022 09:30	05-Oct-2022 14:30	05-Oct-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2205248-001	ET2205248-002	ET2205248-003	ET2205248-004	ET2205248-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	12.7	<0.01	9.19	2.36	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.96	<0.01	7.77	1.51	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	12.1	<0.01	8.76	2.14	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.6	95.6	97.1	93.9	92.0	
13C8-PFOA	----	0.02	%	92.6	94.5	95.1	93.0	92.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC300_221005	0874_MW207_221006	0874_MW206_221006	0874_MW218_221006	0874_MW216_221006
Sampling date / time				05-Oct-2022 00:00	06-Oct-2022 14:05	06-Oct-2022 14:25	06-Oct-2022 09:20	06-Oct-2022 09:40	
Compound	CAS Number	LOR	Unit	ET2205248-006	ET2205248-007	ET2205248-008	ET2205248-009	ET2205248-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	1.66	0.18	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	1.64	0.14	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.01	9.24	6.95	0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.12	0.22	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	1.61	0.10	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.5	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.78	0.15	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	3.88	0.95	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.26	0.06	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.09	0.08	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC300_221005	0874_MW207_221006	0874_MW206_221006	0874_MW218_221006	0874_MW216_221006
Sampling date / time					05-Oct-2022 00:00	06-Oct-2022 14:05	06-Oct-2022 14:25	06-Oct-2022 09:20	06-Oct-2022 09:40
Compound	CAS Number	LOR	Unit		ET2205248-006	ET2205248-007	ET2205248-008	ET2205248-009	ET2205248-010
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.01	18.2	10.3	0.12	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.01	9.24	8.56	0.12	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.01	16.4	9.98	0.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.1	96.2	97.4	99.3	95.0	
13C8-PFOA	----	0.02	%	94.3	92.3	93.4	90.5	93.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW208_221006	0874_MW212_221006	0874_MW252_221006	0874_MW467_221006	0874_MW225_221006
Sampling date / time					06-Oct-2022 13:50	06-Oct-2022 11:30	06-Oct-2022 13:15	06-Oct-2022 12:00	06-Oct-2022 08:00
Compound	CAS Number	LOR	Unit	ET2205248-011	ET2205248-012	ET2205248-013	ET2205248-014	ET2205248-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	<0.02	<0.02	<0.02	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.13	<0.01	<0.01	<0.01	0.09	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	<0.01	<0.01	0.05	0.23	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW208_221006	0874_MW212_221006	0874_MW252_221006	0874_MW467_221006	0874_MW225_221006
Sampling date / time				06-Oct-2022 13:50	06-Oct-2022 11:30	06-Oct-2022 13:15	06-Oct-2022 12:00	06-Oct-2022 08:00	
Compound	CAS Number	LOR	Unit	ET2205248-011	ET2205248-012	ET2205248-013	ET2205248-014	ET2205248-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.24	<0.01	<0.01	0.05	0.35	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.18	<0.01	<0.01	0.05	0.32	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.24	<0.01	<0.01	0.05	0.35	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.0	95.5	92.5	97.3	97.7	
13C8-PFOA	----	0.02	%	94.5	93.2	93.6	94.4	95.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC501_221007	0874_MW214_221006	0874_MW263_221006	0874_MW215_221006	0874_MW233_221006
Sampling date / time					07-Oct-2022 00:00	06-Oct-2022 10:40	06-Oct-2022 09:05	06-Oct-2022 10:15	06-Oct-2022 13:30
Compound	CAS Number	LOR	Unit	ET2205248-016	ET2205248-017	ET2205248-018	ET2205248-019	ET2205248-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.09	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.01	0.12	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC501_221007	0874_MW214_221006	0874_MW263_221006	0874_MW215_221006	0874_MW233_221006
Sampling date / time					07-Oct-2022 00:00	06-Oct-2022 10:40	06-Oct-2022 09:05	06-Oct-2022 10:15	06-Oct-2022 13:30
Compound	CAS Number	LOR	Unit	ET2205248-016	ET2205248-017	ET2205248-018	ET2205248-019	ET2205248-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.01	0.24	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.01	0.21	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.01	0.24	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.6	93.6	87.1	94.8	96.0	
13C8-PFOA	----	0.02	%	93.1	91.7	94.0	94.0	92.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_221007	0874_SW118_221007	0874_SW114_221007	0874_SW109_221007	0874_SW113_221007
Sampling date / time					07-Oct-2022 09:30	07-Oct-2022 11:55	07-Oct-2022 13:25	07-Oct-2022 14:00	07-Oct-2022 12:25
Compound	CAS Number	LOR	Unit	ET2205248-021	ET2205248-022	ET2205248-023	ET2205248-024	ET2205248-025	ET2205248-025
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.24	0.02	<0.02	0.66	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.26	<0.02	<0.02	0.59	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	1.20	0.05	0.09	3.66	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.08	<0.02	<0.02	0.14	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	2.20	0.08	0.16	2.25	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.13	<0.02	<0.02	0.24	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.40	<0.02	0.02	0.98	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.08	<0.02	<0.02	0.13	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.12	<0.01	<0.01	0.18	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW129_221007	0874_SW118_221007	0874_SW114_221007	0874_SW109_221007	0874_SW113_221007
Sampling date / time					07-Oct-2022 09:30	07-Oct-2022 11:55	07-Oct-2022 13:25	07-Oct-2022 14:00	07-Oct-2022 12:25
Compound	CAS Number	LOR	Unit	ET2205248-021	ET2205248-022	ET2205248-023	ET2205248-024	ET2205248-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	4.71	0.15	0.27	8.83	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	3.40	0.13	0.25	5.91	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	4.37	0.15	0.27	8.10	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	97.4	92.9	97.5	113	
13C8-PFOA	----	0.02	%	96.1	91.9	83.9	88.3	87.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW021_221007	0874_SW017_221007	0874_SW209_221007	0874_SW120_221007	0874_SW119_221007
Sampling date / time				07-Oct-2022 10:50	07-Oct-2022 10:20	07-Oct-2022 12:55	07-Oct-2022 10:35	07-Oct-2022 11:25	
Compound	CAS Number	LOR	Unit	ET2205248-026	ET2205248-027	ET2205248-028	ET2205248-029	ET2205248-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.04	0.03	0.53	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.45	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.05	0.01	0.12	0.09	2.51	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.20	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	0.01	0.04	0.11	5.37	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.24	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.03	0.02	0.84	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.02	0.02	0.28	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW021_221007	0874_SW017_221007	0874_SW209_221007	0874_SW120_221007	0874_SW119_221007
Sampling date / time				07-Oct-2022 10:50	07-Oct-2022 10:20	07-Oct-2022 12:55	07-Oct-2022 10:35	07-Oct-2022 11:25	
Compound	CAS Number	LOR	Unit	ET2205248-026	ET2205248-027	ET2205248-028	ET2205248-029	ET2205248-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.08	0.02	0.23	0.27	10.7	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.08	0.02	0.16	0.20	7.88	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.08	0.02	0.23	0.27	10.0	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.4	88.8	70.4	104	102	
13C8-PFOA	----	0.02	%	84.2	84.2	71.0	94.5	89.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_221007	0874_SW014_221007	0874_SW115_221007	0874_MW300_221007	0874_QC301_221006
Sampling date / time				07-Oct-2022 11:35	07-Oct-2022 08:55	07-Oct-2022 12:05	07-Oct-2022 07:50	06-Oct-2022 00:00	
Compound	CAS Number	LOR	Unit	ET2205248-031	ET2205248-032	ET2205248-033	ET2205248-034	ET2205248-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.43	<0.02	0.09	0.16	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.37	<0.02	0.07	0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.23	0.07	0.46	0.19	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	<0.02	0.03	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.28	0.05	0.86	0.09	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.18	<0.02	0.04	0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.69	<0.02	0.15	0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	<0.02	0.03	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.23	<0.01	0.04	0.03	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW117_221007	0874_SW014_221007	0874_SW115_221007	0874_MW300_221007	0874_QC301_221006
Sampling date / time					07-Oct-2022 11:35	07-Oct-2022 08:55	07-Oct-2022 12:05	07-Oct-2022 07:50	06-Oct-2022 00:00
Compound	CAS Number	LOR	Unit	ET2205248-031	ET2205248-032	ET2205248-033	ET2205248-034	ET2205248-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	9.73	0.12	1.77	0.53	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.51	0.12	1.32	0.28	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	9.16	0.12	1.67	0.51	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	110	105	93.3	111	
13C8-PFOA	----	0.02	%	89.4	88.4	84.4	90.3	90.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_221007	0874_QC302_221007	0874_SW127_221007	----	----
Sampling date / time				07-Oct-2022 08:35	07-Oct-2022 00:00	07-Oct-2022 10:00	----	----	
Compound	CAS Number	LOR	Unit	ET2205248-036	ET2205248-037	ET2205248-038	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	<0.01	0.06	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.04	<0.01	0.07	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_221007	0874_QC302_221007	0874_SW127_221007	----	----
Sampling date / time				07-Oct-2022 08:35	07-Oct-2022 00:00	07-Oct-2022 10:00	----	----	
Compound	CAS Number	LOR	Unit	ET2205248-036	ET2205248-037	ET2205248-038	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.10	<0.01	0.15	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.10	<0.01	0.13	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	<0.01	0.15	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	109	104	----	----	
13C8-PFOA	----	0.02	%	90.3	92.2	89.1	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	68	136
13C8-PFOA	----	69	133

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : ET2205248
Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
Telephone : ----
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43246
Sampler : [Redacted]
Site : QLD_0874
Quote number : TV/007/21 v2 - Compass
No. of samples received : 54
No. of samples analysed : 54

Page : 1 of 10
Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 11-Oct-2022
Date Analysis Commenced : 13-Oct-2022
Issue Date : 24-Oct-2022



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes redacted names and roles like Non-Metals Team Leader and Senior Organic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4638126)									
ET2205248-039	0874_SD014_221007	EA055: Moisture Content	----	0.1	%	77.5	76.0	2.0	0% - 20%
ET2205248-049	0874_SD109_221007	EA055: Moisture Content	----	0.1	%	45.2	44.5	1.6	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4643495)									
ET2205248-039	0874_SD014_221007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0015	0.0012	18.3	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0134	0.0161	18.7	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205248-049	0874_SD109_221007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0035	0.0028	21.4	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4643495)									
ET2205248-039	0874_SD014_221007	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4643495) - continued									
ET2205248-039	0874_SD014_221007	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	0.0005	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.002	0.0	No Limit
ET2205248-049	0874_SD109_221007	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4643495)									
ET2205248-039	0874_SD014_221007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0012	<0.0012	0.0	No Limit
ET2205248-049	0874_SD109_221007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4643495)									
ET2205248-039	0874_SD014_221007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205248-049	0874_SD109_221007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4643495)									
ET2205248-039	0874_SD014_221007	EP231X: Sum of PFAS	----	0.0002	mg/kg	0.0149	0.0178	17.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0149	0.0173	14.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0149	0.0173	14.9	0% - 20%
ET2205248-049	0874_SD109_221007	EP231X: Sum of PFAS	----	0.0002	mg/kg	0.0035	0.0028	22.2	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0035	0.0028	22.2	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0035	0.0028	22.2	0% - 50%
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4649371)									
ET2205248-003	0874_MW232_221005	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.05	2.06	0.8	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.72	5.74	0.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.28	0.28	0.0	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.27	0.28	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.16	0.16	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4649371)									
ET2205248-003	0874_MW232_221005	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.15	0.15	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.38	0.38	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.07	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4649371) - continued									
ET2205248-003	0874_MW232_221005	EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4649371)									
ET2205248-003	0874_MW232_221005	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4649371)									
ET2205248-003	0874_MW232_221005	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4649371)									
ET2205248-003	0874_MW232_221005	EP231X: Sum of PFAS	----	0.01	µg/L	9.19	9.33	1.5	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.77	7.80	0.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	8.76	8.89	1.5	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4643495)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.00125 mg/kg	75.6	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.4	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	80.4	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.2	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.8	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4643495)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	86.6	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.6	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.7	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	85.9	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.2	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	82.5	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.1	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.1	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	84.7	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	86.5	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.9	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4643495)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	85.2	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	82.1	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	94.0	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	91.1	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	76.9	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	83.8	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4643495)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	84.1	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00125 mg/kg	89.0	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.00125 mg/kg	86.8	65.0	137	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4643495) - continued									
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.00125 mg/kg	72.3	70.0	130	
EP231P: PFAS Sums (QCLot: 4643495)									
EP231X: Sum of PFAS	----	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	----	----	----	----	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4649371)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.222 µg/L	87.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.235 µg/L	91.1	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.228 µg/L	90.1	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	90.8	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	94.5	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.4	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4649373)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	88.7	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	88.7	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	87.9	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	97.3	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	92.7	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4649371)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.7	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	90.7	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	84.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.5	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	83.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	90.1	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.9	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	90.2	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	89.3	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4649373)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	91.8	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	95.0	72.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4649373) - continued									
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	83.9	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	92.9	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	99.5	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	87.7	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.3	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.6	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	84.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	112	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4649371)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	95.5	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	101	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	98.5	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	98.8	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	91.3	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	91.2	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4649373)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	110	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	93.2	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.5	70.0	130	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.2	70.0	130	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	77.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	96.9	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4649371)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.234 µg/L	92.2	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.238 µg/L	99.7	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	96.5	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.242 µg/L	74.0	70.0	130	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4649373)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4649373) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	95.8	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	102	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	78.3	70.0	130
EP231P: PFAS Sums (QCLot: 4649371)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4649373)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4643495)							
ET2205248-040	0874_SD120_221007	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.00125 mg/kg	80.4	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00125 mg/kg	# 72.2	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00125 mg/kg	80.6	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00125 mg/kg	105	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00125 mg/kg	110	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.00125 mg/kg	119	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4643495)							
ET2205248-040	0874_SD120_221007	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	# 68.6	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	88.9	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# 63.4	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	86.1	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	77.4	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	91.9	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	69.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	85.3	64.0	136



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4643495) - continued							
ET2205248-040	0874_SD120_221007	EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	89.3	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	71.0	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	110	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4643495)							
ET2205248-040	0874_SD120_221007	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	81.4	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	84.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	75.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	73.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	80.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	74.8	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	80.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4643495)							
ET2205248-040	0874_SD120_221007	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00125 mg/kg	78.2	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00125 mg/kg	79.3	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.00125 mg/kg	84.5	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.00125 mg/kg	# 54.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2205248	Page	: 1 of 11
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 11-Oct-2022
Site	: QLD_0874	Issue Date	: 24-Oct-2022
Sampler	: [REDACTED]	No. of samples received	: 54
Order number	: 60612487_2.1	No. of samples analysed	: 54

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205248--040	0874_SD120_221007	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	72.2 %	73.0-123%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205248--040	0874_SD120_221007	Perfluorobutanoic acid (PFBA)	375-22-4	68.6 %	71.0-135%	Recovery less than lower data quality objective
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205248--040	0874_SD120_221007	Perfluorohexanoic acid (PFHxA)	307-24-4	63.4 %	70.0-132%	Recovery less than lower data quality objective
EP231D: (n:2) Fluorotelomer Sulfonic Acids	ET2205248--040	0874_SD120_221007	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	54.2 %	70.0-130%	Recovery less than lower data quality objective

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP231S: PFAS Surrogate	ET2205248-039	0874_SD014_221007	13C4-PFOS	----	141 %	68.0-136 %	Recovery greater than upper data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	38	2.63	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	38	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	----	----	----	14-Oct-2022	21-Oct-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	18-Oct-2022	05-Apr-2023	✓	19-Oct-2022	27-Nov-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	18-Oct-2022	05-Apr-2023	✓	19-Oct-2022	27-Nov-2022	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	18-Oct-2022	05-Apr-2023	✓	19-Oct-2022	27-Nov-2022	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	18-Oct-2022	05-Apr-2023	✓	19-Oct-2022	27-Nov-2022	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0874_SD014_221007, 0874_SD129_221007, 0874_SD127_221007, 0874_SD119_221007, 0874_SD017_221007, 0874_SD109_221007, 0874_SD115_221007, 0874_SD118_221007,	0874_SD120_221007, 0874_SD021_221007, 0874_SD117_221007, 0874_QC101_221007, 0874_SD209_221007, 0874_SD114_221007, 0874_SD113_221007, 0874_SD112_221007	07-Oct-2022	18-Oct-2022	05-Apr-2023	✓	19-Oct-2022	27-Nov-2022	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW223_221005, 0874_MW232_221005, 0874_MW217_221005,	0874_QC500_221005, 0874_MW221_221005, 0874_QC300_221005	05-Oct-2022	20-Oct-2022	03-Apr-2023	✓	20-Oct-2022	03-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW207_221006, 0874_MW218_221006, 0874_MW208_221006, 0874_MW252_221006, 0874_MW225_221006, 0874_MW263_221006, 0874_MW233_221006,	0874_MW206_221006, 0874_MW216_221006, 0874_MW212_221006, 0874_MW467_221006, 0874_MW214_221006, 0874_MW215_221006, 0874_QC301_221006	06-Oct-2022	20-Oct-2022	04-Apr-2023	✓	20-Oct-2022	04-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC501_221007, 0874_SW118_221007, 0874_SW109_221007, 0874_SW021_221007, 0874_SW209_221007, 0874_SW119_221007, 0874_SW014_221007, 0874_MW300_221007, 0874_QC302_221007,	0874_SW129_221007, 0874_SW114_221007, 0874_SW113_221007, 0874_SW017_221007, 0874_SW120_221007, 0874_SW117_221007, 0874_SW115_221007, 0874_SW112_221007, 0874_SW127_221007	07-Oct-2022	20-Oct-2022	05-Apr-2023	✓	20-Oct-2022	05-Apr-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW223_221005, 0874_MW232_221005, 0874_MW217_221005,	0874_QC500_221005, 0874_MW221_221005, 0874_QC300_221005	05-Oct-2022	20-Oct-2022	03-Apr-2023	✓	20-Oct-2022	03-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW207_221006, 0874_MW218_221006, 0874_MW208_221006, 0874_MW252_221006, 0874_MW225_221006, 0874_MW263_221006, 0874_MW233_221006,	0874_MW206_221006, 0874_MW216_221006, 0874_MW212_221006, 0874_MW467_221006, 0874_MW214_221006, 0874_MW215_221006, 0874_QC301_221006	06-Oct-2022	20-Oct-2022	04-Apr-2023	✓	20-Oct-2022	04-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC501_221007, 0874_SW118_221007, 0874_SW109_221007, 0874_SW021_221007, 0874_SW209_221007, 0874_SW119_221007, 0874_SW014_221007, 0874_MW300_221007, 0874_QC302_221007,	0874_SW129_221007, 0874_SW114_221007, 0874_SW113_221007, 0874_SW017_221007, 0874_SW120_221007, 0874_SW117_221007, 0874_SW115_221007, 0874_SW112_221007, 0874_SW127_221007	07-Oct-2022	20-Oct-2022	05-Apr-2023	✓	20-Oct-2022	05-Apr-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW223_221005, 0874_MW232_221005, 0874_MW217_221005,	0874_QC500_221005, 0874_MW221_221005, 0874_QC300_221005	05-Oct-2022	20-Oct-2022	03-Apr-2023	✓	20-Oct-2022	03-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW207_221006, 0874_MW218_221006, 0874_MW208_221006, 0874_MW252_221006, 0874_MW225_221006, 0874_MW263_221006, 0874_MW233_221006,	0874_MW206_221006, 0874_MW216_221006, 0874_MW212_221006, 0874_MW467_221006, 0874_MW214_221006, 0874_MW215_221006, 0874_QC301_221006	06-Oct-2022	20-Oct-2022	04-Apr-2023	✓	20-Oct-2022	04-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC501_221007, 0874_SW118_221007, 0874_SW109_221007, 0874_SW021_221007, 0874_SW209_221007, 0874_SW119_221007, 0874_SW014_221007, 0874_MW300_221007, 0874_QC302_221007,	0874_SW129_221007, 0874_SW114_221007, 0874_SW113_221007, 0874_SW017_221007, 0874_SW120_221007, 0874_SW117_221007, 0874_SW115_221007, 0874_SW112_221007, 0874_SW127_221007	07-Oct-2022	20-Oct-2022	05-Apr-2023	✓	20-Oct-2022	05-Apr-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW223_221005, 0874_MW232_221005, 0874_MW217_221005,	0874_QC500_221005, 0874_MW221_221005, 0874_QC300_221005	05-Oct-2022	20-Oct-2022	03-Apr-2023	✓	20-Oct-2022	03-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW207_221006, 0874_MW218_221006, 0874_MW208_221006, 0874_MW252_221006, 0874_MW225_221006, 0874_MW263_221006, 0874_MW233_221006,	0874_MW206_221006, 0874_MW216_221006, 0874_MW212_221006, 0874_MW467_221006, 0874_MW214_221006, 0874_MW215_221006, 0874_QC301_221006	06-Oct-2022	20-Oct-2022	04-Apr-2023	✓	20-Oct-2022	04-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC501_221007, 0874_SW118_221007, 0874_SW109_221007, 0874_SW021_221007, 0874_SW209_221007, 0874_SW119_221007, 0874_SW014_221007, 0874_MW300_221007, 0874_QC302_221007,	0874_SW129_221007, 0874_SW114_221007, 0874_SW113_221007, 0874_SW017_221007, 0874_SW120_221007, 0874_SW117_221007, 0874_SW115_221007, 0874_SW112_221007, 0874_SW127_221007	07-Oct-2022	20-Oct-2022	05-Apr-2023	✓	20-Oct-2022	05-Apr-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW223_221005, 0874_MW232_221005, 0874_MW217_221005,	0874_QC500_221005, 0874_MW221_221005, 0874_QC300_221005	05-Oct-2022	20-Oct-2022	03-Apr-2023	✓	20-Oct-2022	03-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW207_221006, 0874_MW218_221006, 0874_MW208_221006, 0874_MW252_221006, 0874_MW225_221006, 0874_MW263_221006, 0874_MW233_221006,	0874_MW206_221006, 0874_MW216_221006, 0874_MW212_221006, 0874_MW467_221006, 0874_MW214_221006, 0874_MW215_221006, 0874_QC301_221006	06-Oct-2022	20-Oct-2022	04-Apr-2023	✓	20-Oct-2022	04-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC501_221007, 0874_SW118_221007, 0874_SW109_221007, 0874_SW021_221007, 0874_SW209_221007, 0874_SW119_221007, 0874_SW014_221007, 0874_MW300_221007, 0874_QC302_221007,	0874_SW129_221007, 0874_SW114_221007, 0874_SW113_221007, 0874_SW017_221007, 0874_SW120_221007, 0874_SW117_221007, 0874_SW115_221007, 0874_SW112_221007, 0874_SW127_221007	07-Oct-2022	20-Oct-2022	05-Apr-2023	✓	20-Oct-2022	05-Apr-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	16	12.50	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	38	2.63	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	38	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2205248

Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Contact	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
E-mail	: [REDACTED]	E-mail	: [REDACTED]
Telephone	: ----	Telephone	: [REDACTED]
Facsimile	: ----	Facsimile	: [REDACTED]
Project	: QLD_0874_PFASOMP	Page	: 1 of 4
Order number	: 60612487_2.1	Quote number	: ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
C-O-C number	: 43246	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: QLD_0874		
Sampler	: [REDACTED]		

Dates

Date Samples Received	: 11-Oct-2022 08:40	Issue Date	: 19-Oct-2022
Client Requested Due Date	: 21-Oct-2022	Scheduled Reporting Date	: 21-Oct-2022

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 4.1/1.4/0.9°C - Ice present
Receipt Detail	: MEDIUM ESKY	No. of samples received / analysed	: 54 / 54

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***SRN Reissued 19/10/2022: To acknowledge request for updated Sampling date.**
- **14/10/2022: SRN has been resent to acknowledge the changes in sample dates/times as per email from [REDACTED]. For any further information regarding these adjustments please contact client services at [REDACTED].**
- **14/10/2022: SRN 2 has been resent to acknowledge the sample name change and time change for sample ET2205248-029. For any further information regarding these adjustments please contact client services at [REDACTED].**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- **EP231X (PFAS) and EP231X (Solids) analysis will be conducted by ALS Environmental, Melbourne, NATA accreditation No. 825, Site No. 13778.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2205248-039	07-Oct-2022 08:55	0874_SD014_221007	✓	✓
ET2205248-040	07-Oct-2022 10:35	0874_SD120_221007	✓	✓
ET2205248-041	07-Oct-2022 09:30	0874_SD129_221007	✓	✓
ET2205248-042	07-Oct-2022 10:50	0874_SD021_221007	✓	✓
ET2205248-043	07-Oct-2022 10:00	0874_SD127_221007	✓	✓
ET2205248-044	07-Oct-2022 11:35	0874_SD117_221007	✓	✓
ET2205248-045	07-Oct-2022 11:25	0874_SD119_221007	✓	✓
ET2205248-046	07-Oct-2022 11:55	0874_QC101_221007	✓	✓
ET2205248-047	07-Oct-2022 10:20	0874_SD017_221007	✓	✓
ET2205248-048	07-Oct-2022 12:55	0874_SD209_221007	✓	✓
ET2205248-049	07-Oct-2022 14:00	0874_SD109_221007	✓	✓
ET2205248-050	07-Oct-2022 13:25	0874_SD114_221007	✓	✓
ET2205248-051	07-Oct-2022 12:05	0874_SD115_221007	✓	✓
ET2205248-052	07-Oct-2022 12:25	0874_SD113_221007	✓	✓
ET2205248-053	07-Oct-2022 11:55	0874_SD118_221007	✓	✓
ET2205248-054	07-Oct-2022 08:35	0874_SD112_221007	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2205248-001	05-Oct-2022 08:55	0874_MW223_221005	✓
ET2205248-002	05-Oct-2022 00:00	0874_QC500_221005	✓
ET2205248-003	05-Oct-2022 09:30	0874_MW232_221005	✓
ET2205248-004	05-Oct-2022 14:30	0874_MW221_221005	✓
ET2205248-005	05-Oct-2022 15:00	0874_MW217_221005	✓
ET2205248-006	05-Oct-2022 00:00	0874_QC300_221005	✓
ET2205248-007	06-Oct-2022 14:05	0874_MW207_221006	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
ET2205248-008	06-Oct-2022 14:25	0874_MW206_221006	✓	
ET2205248-009	06-Oct-2022 09:20	0874_MW218_221006	✓	
ET2205248-010	06-Oct-2022 09:40	0874_MW216_221006	✓	
ET2205248-011	06-Oct-2022 13:50	0874_MW208_221006	✓	
ET2205248-012	06-Oct-2022 11:30	0874_MW212_221006	✓	
ET2205248-013	06-Oct-2022 13:15	0874_MW252_221006	✓	
ET2205248-014	06-Oct-2022 12:00	0874_MW467_221006	✓	
ET2205248-015	06-Oct-2022 08:00	0874_MW225_221006	✓	
ET2205248-016	07-Oct-2022 00:00	0874_QC501_221007	✓	
ET2205248-017	06-Oct-2022 10:40	0874_MW214_221006	✓	
ET2205248-018	06-Oct-2022 09:05	0874_MW263_221006	✓	
ET2205248-019	06-Oct-2022 10:15	0874_MW215_221006	✓	
ET2205248-020	06-Oct-2022 13:30	0874_MW233_221006	✓	
ET2205248-021	07-Oct-2022 09:30	0874_SW129_221007	✓	
ET2205248-022	07-Oct-2022 11:55	0874_SW118_221007	✓	
ET2205248-023	07-Oct-2022 13:25	0874_SW114_221007	✓	
ET2205248-024	07-Oct-2022 14:00	0874_SW109_221007	✓	
ET2205248-025	07-Oct-2022 12:25	0874_SW113_221007	✓	
ET2205248-026	07-Oct-2022 10:50	0874_SW021_221007	✓	
ET2205248-027	07-Oct-2022 10:20	0874_SW017_221007	✓	
ET2205248-028	07-Oct-2022 12:55	0874_SW209_221007	✓	
ET2205248-029	07-Oct-2022 10:35	0874_SW120_221007	✓	
ET2205248-030	07-Oct-2022 11:25	0874_SW119_221007	✓	
ET2205248-031	07-Oct-2022 11:35	0874_SW117_221007	✓	
ET2205248-032	07-Oct-2022 08:55	0874_SW014_221007	✓	
ET2205248-033	07-Oct-2022 12:05	0874_SW115_221007	✓	
ET2205248-034	07-Oct-2022 07:50	0874_MW300_221007	✓	
ET2205248-035	06-Oct-2022 00:00	0874_QC301_221006	✓	
ET2205248-036	07-Oct-2022 08:35	0874_SW112_221007	✓	
ET2205248-037	07-Oct-2022 00:00	0874_QC302_221007	✓	
ET2205248-038	07-Oct-2022 10:00	0874_SW127_221007	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



CERTIFICATE OF ANALYSIS

Work Order : ET2205356
Client : AECOM AUSTRALIA PTY LTD
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43496
Sampler : [Redacted]
Site : QLD_0874_PFASOMP
Quote number : TV/007/21 v2 - Compass
No. of samples received : 72
No. of samples analysed : 72

Page : 1 of 33
Laboratory : Environmental Division Townsville
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 14-Oct-2022 08:40
Date Analysis Commenced : 17-Oct-2022
Issue Date : 04-Nov-2022 17:14



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
• Analytical Results
• Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], 2IC Organic Chemist, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: The LOR values of particular analytes for particular samples have been raised due to matrix interferences.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW205_221008	0874_QC100_221008	0874_MW267_221008	0874_MW211_221008	0874_MW213_221008
Sampling date / time				08-Oct-2022 09:30	08-Oct-2022 09:30	08-Oct-2022 11:45	08-Oct-2022 10:20	08-Oct-2022 10:40	
Compound	CAS Number	LOR	Unit	ET2205356-001	ET2205356-002	ET2205356-003	ET2205356-004	ET2205356-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.03	0.05	0.02	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.03	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.07	0.06	0.14	0.03	<0.02	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.04	<0.07	0.08	0.05	<0.02	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.02	<0.02	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW205_221008	0874_QC100_221008	0874_MW267_221008	0874_MW211_221008	0874_MW213_221008
Sampling date / time				08-Oct-2022 09:30	08-Oct-2022 09:30	08-Oct-2022 11:45	08-Oct-2022 10:20	08-Oct-2022 10:40	
Compound	CAS Number	LOR	Unit	ET2205356-001	ET2205356-002	ET2205356-003	ET2205356-004	ET2205356-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.06	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.11	0.09	0.30	0.10	0.03	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.07	0.06	0.22	0.08	<0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.11	0.09	0.27	0.10	0.03	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	119	118	101	116	114	
13C8-PFOA	----	0.02	%	106	109	108	108	109	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_221008	0874_QC103_221008	0874_QC303_221008	0874_MW253_221008	0874_MW264_221008
Sampling date / time				08-Oct-2022 10:00	08-Oct-2022 10:40	08-Oct-2022 17:19	08-Oct-2022 08:45	08-Oct-2022 11:10	
Compound	CAS Number	LOR	Unit	ET2205356-006	ET2205356-007	ET2205356-008	ET2205356-009	ET2205356-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.09	<0.02	0.05	0.14	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.09	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	<0.02	<0.01	0.02	0.47	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.10	<0.02	<0.01	0.02	0.04	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.02	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_221008	0874_QC103_221008	0874_QC303_221008	0874_MW253_221008	0874_MW264_221008
Sampling date / time				08-Oct-2022 10:00	08-Oct-2022 10:40	08-Oct-2022 17:19	08-Oct-2022 08:45	08-Oct-2022 11:10	
Compound	CAS Number	LOR	Unit	ET2205356-006	ET2205356-007	ET2205356-008	ET2205356-009	ET2205356-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.12	0.09	<0.01	0.09	0.74	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.12	<0.02	<0.01	0.04	0.51	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.12	0.09	<0.01	0.09	0.65	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	114	105	119	122	
13C8-PFOA	----	0.02	%	108	108	106	107	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_221008	0874_QC104_221010	0874_MW016_221010	0874_MW046_221010	0874_MW055_221010
Sampling date / time				08-Oct-2022 10:00	10-Oct-2022 16:25	10-Oct-2022 16:25	10-Oct-2022 13:55	10-Oct-2022 15:00	
Compound	CAS Number	LOR	Unit	ET2205356-011	ET2205356-012	ET2205356-013	ET2205356-014	ET2205356-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	25.8	19.7	5.15	8.46	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	30.4	23.6	11.4	9.10	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	376	291	151	75.9	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	25.5	19.8	10.6	4.04	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.10	297	232	97.6	153	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	7.2	5.6	<2.5	<2.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	14.9	11.7	4.35	5.21	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	75.9	59.1	43.9	25.7	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	9.32	7.08	2.90	3.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.02	20.0	14.7	7.95	8.24	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<3.38	<2.60	<1.25	<1.33	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<3.38	<2.60	<1.25	<1.33	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<3.38	<2.60	<1.25	<1.33	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC102_221008	0874_QC104_221010	0874_MW016_221010	0874_MW046_221010	0874_MW055_221010
Sampling date / time					08-Oct-2022 10:00	10-Oct-2022 16:25	10-Oct-2022 16:25	10-Oct-2022 13:55	10-Oct-2022 15:00
Compound	CAS Number	LOR	Unit	ET2205356-011	ET2205356-012	ET2205356-013	ET2205356-014	ET2205356-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<3.38	<2.60	<1.25	<1.33	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<3.38	<2.60	<1.25	<1.33	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<1.35	<1.04	<0.50	<0.53	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<1.35	<1.04	<0.50	<0.53	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<1.35	<1.04	<0.50	<0.53	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<1.35	<1.04	<0.50	<0.53	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<1.35	<1.04	<0.50	<0.53	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.19	882	684	335	293	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.14	673	523	249	229	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.19	826	641	313	280	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	127	124	108	119	
13C8-PFOA	----	0.02	%	107	107	108	112	106	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW002_221010	0874_MW241_221010	0874_MW056_221010	0874_MW135_221010	0874_MW009_221010
Sampling date / time					10-Oct-2022 11:50	10-Oct-2022 12:30	10-Oct-2022 11:15	10-Oct-2022 11:30	10-Oct-2022 09:20
Compound	CAS Number	LOR	Unit	ET2205356-016	ET2205356-017	ET2205356-018	ET2205356-019	ET2205356-020	ET2205356-020
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.39	0.31	0.79	0.62	0.27	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.45	0.29	0.71	0.72	0.29	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.19	1.94	2.44	0.17	1.85	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.18	0.04	0.02	0.05	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.63	0.28	0.17	0.16	0.08	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.1	0.2	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.22	0.05	0.11	0.11	0.05	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.21	0.19	0.42	13.4	0.30	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	<0.02	0.02	0.03	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.18	0.01	0.02	0.02	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW002_221010	0874_MW241_221010	0874_MW056_221010	0874_MW135_221010	0874_MW009_221010
Sampling date / time					10-Oct-2022 11:50	10-Oct-2022 12:30	10-Oct-2022 11:15	10-Oct-2022 11:30	10-Oct-2022 09:20
Compound	CAS Number	LOR	Unit		ET2205356-016	ET2205356-017	ET2205356-018	ET2205356-019	ET2205356-020
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	8.77	3.21	4.90	15.3	2.86	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.82	2.22	2.61	0.33	1.93	
Sum of PFAS (WA DER List)	----	0.01	µg/L	8.14	2.88	4.17	14.5	2.55	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	112	110	110	116	
13C8-PFOA	----	0.02	%	108	107	108	106	110	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW004_221010	0874_MW247_221010	0874_QC502_221010	0874_QC304_221010	0874_MW021_221011
Sampling date / time					10-Oct-2022 12:20	10-Oct-2022 10:15	10-Oct-2022 17:34	10-Oct-2022 17:32	11-Oct-2022 15:25
Compound	CAS Number	LOR	Unit	ET2205356-021	ET2205356-022	ET2205356-023	ET2205356-024	ET2205356-025	ET2205356-025
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.08	1.07	<0.02	<0.02	514	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	1.49	<0.02	<0.02	803	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.06	20.6	<0.01	<0.01	15000	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	1.83	<0.02	<0.02	1020	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.03	78.5	<0.01	<0.01	9510	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.5	<0.1	<0.1	217	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.71	<0.02	<0.02	406	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	5.94	<0.02	<0.02	2540	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.44	<0.02	<0.02	251	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	1.82	<0.01	<0.01	727	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<10.4	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.25	<0.05	<0.05	<26.0	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.63	<0.02	<0.02	<10.4	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.25	<0.05	<0.05	<26.0	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.25	<0.05	<0.05	<26.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW004_221010	0874_MW247_221010	0874_QC502_221010	0874_QC304_221010	0874_MW021_221011
Sampling date / time					10-Oct-2022 12:20	10-Oct-2022 10:15	10-Oct-2022 17:34	10-Oct-2022 17:32	11-Oct-2022 15:25
Compound	CAS Number	LOR	Unit	ET2205356-021	ET2205356-022	ET2205356-023	ET2205356-024	ET2205356-025	ET2205356-025
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.25	<0.05	<0.05	<0.05	<26.0
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.25	<0.05	<0.05	<0.05	<26.0
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<0.02	<10.4
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.10	<0.02	<0.02	<0.02	<10.4
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.10	<0.05	<0.05	<0.05	<10.4
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.10	<0.05	<0.05	<0.05	<10.4
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.10	<0.05	<0.05	<0.05	<10.4
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.10	<0.05	<0.05	<0.05	<10.4
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.09	113	<0.01	<0.01	<0.01	31000
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	99.1	<0.01	<0.01	<0.01	24500
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.09	109	<0.01	<0.01	<0.01	29200
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.8	102	101	105	105	99.3
13C8-PFOA	----	0.02	%	108	106	108	109	109	107



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW251_221011	0874_MW015_221011	0874_QC106_221011	0874_MW109_221011	0874_MW090_221011
Sampling date / time				11-Oct-2022 14:50	11-Oct-2022 15:40	11-Oct-2022 15:40	11-Oct-2022 15:00	11-Oct-2022 13:40	
Compound	CAS Number	LOR	Unit	ET2205356-026	ET2205356-027	ET2205356-028	ET2205356-029	ET2205356-030	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	16.9	23.0	62.0	<0.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.03	22.3	33.3	72.0	0.04	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.28	247	352	572	0.73	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	17.6	24.5	55.7	0.03	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.30	192	222	1000	2.51	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	5.2	6.7	30.8	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	10.1	12.4	43.3	<0.08	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.07	65.9	89.0	242	0.27	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	5.70	7.39	21.7	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	12.1	15.1	46.8	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.62	<0.60	<0.62	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.25	<0.24	0.80	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.62	<0.60	<0.62	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.62	<0.60	<0.62	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW251_221011	0874_MW015_221011	0874_QC106_221011	0874_MW109_221011	0874_MW090_221011
Sampling date / time					11-Oct-2022 14:50	11-Oct-2022 15:40	11-Oct-2022 15:40	11-Oct-2022 15:00	11-Oct-2022 13:40
Compound	CAS Number	LOR	Unit	ET2205356-026	ET2205356-027	ET2205356-028	ET2205356-029	ET2205356-030	ET2205356-030
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.62	<0.60	<0.62	<0.62	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.62	<0.60	<0.62	<0.62	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.25	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.25	<0.24	<0.25	<0.25	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.25	<0.24	<0.25	<0.25	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.25	<0.24	12.4	<0.25	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.25	<0.24	<0.40	<0.25	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.25	<0.24	<0.25	<0.25	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.71	595	785	2160	3.59	3.59
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.58	439	574	1570	3.24	3.24
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.68	555	728	2030	3.52	3.52
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.2	106	97.5	100	94.9	94.9
13C8-PFOA	----	0.02	%	106	108	107	106	98.4	98.4



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW054_221011	0874_MW081_221011	0874_QC105_221011	0874_MW242_221011	0874_MW005_221011
Sampling date / time					11-Oct-2022 14:25	11-Oct-2022 14:10	11-Oct-2022 13:40	11-Oct-2022 12:45	11-Oct-2022 13:55
Compound	CAS Number	LOR	Unit	ET2205356-031	ET2205356-032	ET2205356-033	ET2205356-034	ET2205356-035	ET2205356-035
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.38	68.6	<0.04	<0.18	32.8	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.55	128	0.04	0.11	122	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	25.0	1960	0.74	0.89	944	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.84	186	0.03	0.02	95.0	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	79.4	1220	2.55	0.39	692	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.8	12.4	<0.1	<0.1	12.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.80	35.6	<0.06	0.03	27.0	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	9.09	326	0.25	0.17	368	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.62	33.6	<0.02	<0.02	15.2	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.50	88.9	0.02	0.02	30.3	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.14	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<2.60	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<2.60	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<2.60	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW054_221011	0874_MW081_221011	0874_QC105_221011	0874_MW242_221011	0874_MW005_221011
Sampling date / time					11-Oct-2022 14:25	11-Oct-2022 14:10	11-Oct-2022 13:40	11-Oct-2022 12:45	11-Oct-2022 13:55
Compound	CAS Number	LOR	Unit	ET2205356-031	ET2205356-032	ET2205356-033	ET2205356-034	ET2205356-035	ET2205356-035
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<2.60	<0.05	<0.05	<0.12	<0.12
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<2.60	<0.05	<0.05	<0.12	<0.12
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<1.04	<0.02	<0.02	<0.05	<0.05
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<1.04	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<1.04	<0.05	<0.05	<0.10	<0.10
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<1.04	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<1.04	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	127	4060	3.63	1.63	2340	2340
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	104	3180	3.29	1.28	1640	1640
Sum of PFAS (WA DER List)	----	0.01	µg/L	122	3740	3.56	1.50	2120	2120
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	96.7	101	96.6	99.0	99.0
13C8-PFOA	----	0.02	%	107	103	105	110	109	109



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW114_221011	0874_MW122_221011	0874_MW246_221011	0874_MW243_221011	0874_MW248_221011
Sampling date / time				11-Oct-2022 11:55	11-Oct-2022 12:25	11-Oct-2022 13:20	11-Oct-2022 08:50	11-Oct-2022 11:30	
Compound	CAS Number	LOR	Unit	ET2205356-036	ET2205356-037	ET2205356-038	ET2205356-039	ET2205356-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.30	0.03	0.12	1.68	19.0	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.02	<0.02	0.11	1.70	24.4	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	12.8	0.07	1.18	9.89	242	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.83	<0.02	0.07	0.71	25.6	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.5	0.05	2.69	10.6	412	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.08	<0.02	<0.23	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.7	<0.1	<0.1	0.5	4.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.03	<0.02	0.07	0.97	8.62	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	5.90	0.03	0.51	4.60	68.7	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.46	<0.02	0.03	0.38	5.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.80	<0.01	0.09	0.77	19.2	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.23	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.23	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.23	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.23	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.23	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.58	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	0.66	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.58	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.58	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW114_221011	0874_MW122_221011	0874_MW246_221011	0874_MW243_221011	0874_MW248_221011
Sampling date / time					11-Oct-2022 11:55	11-Oct-2022 12:25	11-Oct-2022 13:20	11-Oct-2022 08:50	11-Oct-2022 11:30
Compound	CAS Number	LOR	Unit	ET2205356-036	ET2205356-037	ET2205356-038	ET2205356-039	ET2205356-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	<0.58
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.05	<0.05	<0.05	<0.05	<0.58
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	<0.23
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	<0.23
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.23
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.39	<0.05	<0.05	<0.23
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.23
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.23
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	43.3	0.18	5.26	31.8	829	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	29.3	0.12	3.87	20.5	654	
Sum of PFAS (WA DER List)	----	0.01	µg/L	40.5	0.18	5.08	29.4	779	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.4	102	95.9	110	94.6	
13C8-PFOA	----	0.02	%	109	109	108	108	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW057_221011	0874_MW038_221011	0874_MW125_221011	0874_MW136_221011	0874_MW244_221011
Sampling date / time					11-Oct-2022 12:10	11-Oct-2022 11:15	11-Oct-2022 11:00	11-Oct-2022 09:05	11-Oct-2022 09:25
Compound	CAS Number	LOR	Unit	ET2205356-041	ET2205356-042	ET2205356-043	ET2205356-044	ET2205356-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.45	0.56	4.14	<0.10	0.64	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.40	0.41	5.38	0.05	0.64	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.36	3.00	92.8	0.37	3.21	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.16	4.14	<0.02	0.18	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.06	3.06	160	0.38	3.43	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.2	<2.4	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.19	0.14	2.57	0.04	0.19	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.98	0.55	19.6	0.05	1.10	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.11	1.67	<0.02	0.08	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.16	2.28	<0.01	0.13	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<1.19	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<1.19	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<1.19	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW057_221011	0874_MW038_221011	0874_MW125_221011	0874_MW136_221011	0874_MW244_221011
Sampling date / time					11-Oct-2022 12:10	11-Oct-2022 11:15	11-Oct-2022 11:00	11-Oct-2022 09:05	11-Oct-2022 09:25
Compound	CAS Number	LOR	Unit	ET2205356-041	ET2205356-042	ET2205356-043	ET2205356-044	ET2205356-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<1.19	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<1.19	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.48	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.48	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.48	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.48	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.48	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	5.64	8.35	292	0.89	9.60	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.42	6.06	253	0.75	6.64	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.14	7.78	283	0.84	8.78	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	111	119	102	104	95.4	
13C8-PFOA	----	0.02	%	100	102	102	110	110	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW043_221011	0874_MW265_221011	0874_QC305_221011	0874_QC306_221012	0874_MW245_221012
Sampling date / time					11-Oct-2022 11:40	11-Oct-2022 08:35	11-Oct-2022 17:36	12-Oct-2022 16:03	12-Oct-2022 14:30
Compound	CAS Number	LOR	Unit	ET2205356-046	ET2205356-047	ET2205356-048	ET2205356-049	ET2205356-050	ET2205356-050
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.78	0.50	<0.02	<0.02	16.0	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.70	0.27	<0.02	<0.02	19.3	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	52.9	0.91	<0.01	<0.01	91.2	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.94	<0.02	<0.02	<0.02	4.90	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	45.3	0.14	<0.01	<0.01	37.7	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.6	<0.1	<0.1	<0.1	6.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.73	0.03	<0.02	<0.02	9.61	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	14.3	0.11	<0.02	<0.02	57.3	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.40	<0.02	<0.02	<0.02	7.15	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	4.44	<0.01	<0.01	<0.01	8.27	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.61	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.24	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.61	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.61	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW043_221011	0874_MW265_221011	0874_QC305_221011	0874_QC306_221012	0874_MW245_221012
Sampling date / time					11-Oct-2022 11:40	11-Oct-2022 08:35	11-Oct-2022 17:36	12-Oct-2022 16:03	12-Oct-2022 14:30
Compound	CAS Number	LOR	Unit	ET2205356-046	ET2205356-047	ET2205356-048	ET2205356-049	ET2205356-050	ET2205356-050
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	<0.61
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.05	<0.05	<0.05	<0.05	<0.61
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	<0.24
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.02	<0.02	<0.02	<0.02	<0.24
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	<0.24
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	0.49
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	0.41
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.05	<0.05	<0.05	<0.05	<0.24
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	127	1.96	<0.01	<0.01	<0.01	258
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	98.2	1.05	<0.01	<0.01	<0.01	129
Sum of PFAS (WA DER List)	----	0.01	µg/L	122	1.69	<0.01	<0.01	<0.01	234
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	111	95.3	98.2	92.8	102	102
13C8-PFOA	----	0.02	%	102	107	104	102	105	105



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW139_221012	0874_MW138_221012	0874_MW110_221012	0874_MW224_221012	0874_MW112_221012
Sampling date / time					12-Oct-2022 15:00	12-Oct-2022 15:15	12-Oct-2022 14:45	12-Oct-2022 13:30	12-Oct-2022 14:20
Compound	CAS Number	LOR	Unit	ET2205356-051	ET2205356-052	ET2205356-053	ET2205356-054	ET2205356-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	30.0	32.8	15.6	0.09	2.04	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	32.2	37.7	17.4	0.07	2.48	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	218	278	182	0.41	25.5	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	21.4	17.2	10.8	<0.02	1.35	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	412	311	222	0.32	27.2	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	13.9	18.1	8.4	<0.1	0.4	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	19.1	22.4	17.4	0.08	1.23	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	109	103	63.0	0.09	8.80	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	16.4	9.30	6.55	0.04	0.62	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	28.6	15.5	10.0	<0.02	1.13	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.50	<0.25	<0.50	0.03	<0.05	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<1.25	<0.62	<1.25	<0.06	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<1.25	<0.62	<1.25	<0.06	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<1.25	<0.62	<1.25	<0.06	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW139_221012	0874_MW138_221012	0874_MW110_221012	0874_MW224_221012	0874_MW112_221012
Sampling date / time					12-Oct-2022 15:00	12-Oct-2022 15:15	12-Oct-2022 14:45	12-Oct-2022 13:30	12-Oct-2022 14:20
Compound	CAS Number	LOR	Unit	ET2205356-051	ET2205356-052	ET2205356-053	ET2205356-054	ET2205356-055	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<1.25	<0.62	<1.25	<0.06	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<1.25	<0.62	<1.25	<0.06	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.50	<0.25	<0.50	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.50	<0.25	<0.50	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	12.4	0.40	1.50	0.07	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.50	<0.25	<0.50	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.50	<0.25	<0.50	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	913	845	555	1.20	70.8	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	630	589	404	0.73	52.7	
Sum of PFAS (WA DER List)	----	0.01	µg/L	859	790	526	1.10	66.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	100	107	107	105	
13C8-PFOA	----	0.02	%	104	105	103	103	109	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_221012	0874_MW222_221012	0874_MW227_221012	0874_QC107_221012	0874_MW142_221012
Sampling date / time					12-Oct-2022 12:10	12-Oct-2022 13:50	12-Oct-2022 10:55	12-Oct-2022 13:30	12-Oct-2022 08:25
Compound	CAS Number	LOR	Unit	ET2205356-056	ET2205356-057	ET2205356-058	ET2205356-059	ET2205356-060	ET2205356-060
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.42	<0.05	<0.02	0.30	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.62	<0.05	<0.02	0.26	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	12.6	<0.09	<0.02	1.30	0.21	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.96	<0.05	<0.02	0.08	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	21.4	0.12	<0.01	1.38	0.48	<0.02
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	<0.2	<0.1	0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.76	<0.05	<0.02	0.14	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.98	<0.05	<0.02	0.22	0.07	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.54	<0.05	<0.02	0.06	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.94	<0.05	<0.01	0.05	0.01	<0.02
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	<0.02	0.06	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_221012	0874_MW222_221012	0874_MW227_221012	0874_QC107_221012	0874_MW142_221012
Sampling date / time					12-Oct-2022 12:10	12-Oct-2022 13:50	12-Oct-2022 10:55	12-Oct-2022 13:30	12-Oct-2022 08:25
Compound	CAS Number	LOR	Unit	ET2205356-056	ET2205356-057	ET2205356-058	ET2205356-059	ET2205356-060	ET2205356-060
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.08	<0.05	<0.05	0.09	0.08	0.08
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	44.8	0.12	<0.01	4.04	0.85	0.85
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	34.0	0.12	<0.01	2.68	0.69	0.69
Sum of PFAS (WA DER List)	----	0.01	µg/L	42.2	0.12	<0.01	3.64	0.85	0.85
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	108	96.2	99.5	98.3	103	103
13C8-PFOA	----	0.02	%	104	108	103	101	101	101



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW229_221012	0874_MW234_221012	0874_MW140_221012	0874_MW250_221012	0874_MW118_221012
Sampling date / time					12-Oct-2022 10:30	12-Oct-2022 09:25	12-Oct-2022 07:50	12-Oct-2022 08:10	12-Oct-2022 08:40
Compound	CAS Number	LOR	Unit	ET2205356-061	ET2205356-062	ET2205356-063	ET2205356-064	ET2205356-065	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.40	1.09	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.24	0.38	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.03	0.05	1.91	0.70	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.06	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.11	0.02	1.00	0.97	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.10	0.50	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.49	0.80	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.02	0.06	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.04	<0.01	0.03	0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW229_221012	0874_MW234_221012	0874_MW140_221012	0874_MW250_221012	0874_MW118_221012
Sampling date / time					12-Oct-2022 10:30	12-Oct-2022 09:25	12-Oct-2022 07:50	12-Oct-2022 08:10	12-Oct-2022 08:40
Compound	CAS Number	LOR	Unit	ET2205356-061	ET2205356-062	ET2205356-063	ET2205356-064	ET2205356-065	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.18	0.07	4.25	5.22	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.14	0.07	2.91	1.67	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.18	0.07	3.95	4.82	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	111	86.6	98.2	93.3	87.6	
13C8-PFOA	----	0.02	%	105	101	105	99.6	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW026_221013	0874_MW120_221013	0874_QC108_221013	0874_MW034_221013	0874_MW061_221013
Sampling date / time				13-Oct-2022 09:50	13-Oct-2022 10:10	13-Oct-2022 10:10	13-Oct-2022 10:10	13-Oct-2022 10:25	13-Oct-2022 10:50
Compound	CAS Number	LOR	Unit	ET2205356-066	ET2205356-067	ET2205356-068	ET2205356-069	ET2205356-070	ET2205356-070
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.22	0.93	0.86	6.87	<0.32	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	1.15	1.07	4.73	0.51	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.72	9.11	8.22	15.5	6.29	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.34	0.62	0.58	0.74	0.27	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	13.4	13.5	11.9	3.17	15.1	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.3	0.3	0.8	<1.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.47	0.46	1.23	<0.24	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.41	2.66	2.55	5.94	1.54	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.28	0.25	0.42	<0.24	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.18	0.62	0.58	0.44	0.41	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.24	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.61	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.05	<0.02	<0.02	<0.02	<0.24	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.61	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.61	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW026_221013	0874_MW120_221013	0874_QC108_221013	0874_MW034_221013	0874_MW061_221013
Sampling date / time					13-Oct-2022 09:50	13-Oct-2022 10:10	13-Oct-2022 10:10	13-Oct-2022 10:25	13-Oct-2022 10:50
Compound	CAS Number	LOR	Unit		ET2205356-066	ET2205356-067	ET2205356-068	ET2205356-069	ET2205356-070
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	<0.61
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	<0.61
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.24
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.24
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.24
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.08	<0.05	<0.05	<0.05	<0.05	<0.24
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.24
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.24
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	16.4	29.6	26.8	39.8	24.1	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	15.1	22.6	20.1	18.7	21.4	
Sum of PFAS (WA DER List)	----	0.01	µg/L	15.9	27.9	25.1	34.4	23.3	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.1	86.9	103	94.6	100	
13C8-PFOA	----	0.02	%	103	108	102	102	107	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC307_221013	0874_MW033_221013	----	----	----
Sampling date / time				13-Oct-2022 11:54	13-Oct-2022 10:35	----	----	----	
Compound	CAS Number	LOR	Unit	ET2205356-071	ET2205356-072	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.43	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.44	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	3.13	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.31	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	9.30	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.3	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.62	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	1.57	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.50	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.84	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.04	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.14	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC307_221013	0874_MW033_221013	----	----	----
Sampling date / time				13-Oct-2022 11:54	13-Oct-2022 10:35	----	----	----	
Compound	CAS Number	LOR	Unit	ET2205356-071	ET2205356-072	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	17.9	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	12.4	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	16.7	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	110	94.1	----	----	----	
13C8-PFOA	----	0.02	%	108	100	----	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids



QUALITY CONTROL REPORT

Work Order : ET2205356
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43496
Sampler :
Site : QLD_0874_PFASOMP
Quote number : TV/007/21 v2 - Compass
No. of samples received : 72
No. of samples analysed : 72

Page : 1 of 12
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 14-Oct-2022
Date Analysis Commenced : 17-Oct-2022
Issue Date : 04-Nov-2022



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Row 1: [Redacted], 2IC Organic Chemist, Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4653174)									
ET2205356-027	0874_MW015_221011	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	247	265	6.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	192	180	6.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	16.9	17.2	2.1	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	22.3	22.8	2.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	17.6	17.6	0.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.25	<0.25	0.0	No Limit
ET2205356-031	0874_MW054_221011	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	25.0	25.8	3.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	79.4	81.5	2.6	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.38	3.39	0.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.55	3.61	1.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.84	1.84	0.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.10	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4655560)									
ET2205356-062	0874_MW234_221012	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	0.04	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.11	0.10	0.0	0% - 50%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4653174)									
ET2205356-027	0874_MW015_221011	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	12.1	11.9	1.3	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	10.1	8.94	12.4	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	65.9	66.9	1.5	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	5.70	5.68	0.2	0% - 20%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4653174) - continued											
ET2205356-027	0874_MW015_221011	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.62	<0.62	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	5.2	5.1	2.2	No Limit		
ET2205356-031	0874_MW054_221011	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.50	1.51	1.0	0% - 50%		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.80	1.76	2.6	0% - 50%		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	9.09	9.13	0.4	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.62	0.65	4.4	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.10	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.10	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.10	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.10	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.10	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.8	0.8	0.0	No Limit		
		EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4655560)									
		ET2205356-062	0874_MW234_221012	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4653174)											
ET2205356-027	0874_MW015_221011			EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.25	<0.25	0.0	No Limit		
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.62	<0.62	0.0	No Limit		
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit		



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4653174) - continued									
ET2205356-027	0874_MW015_221011	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.62	<0.62	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.62	<0.62	0.0	No Limit
ET2205356-031	0874_MW054_221011	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4655560)									
ET2205356-062	0874_MW234_221012	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4653174)									
ET2205356-027	0874_MW015_221011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.25	<0.25	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.25	<0.25	0.0	No Limit



Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4653174) - continued									
ET2205356-031	0874_MW054_221011	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.10	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.10	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 465560)									
ET2205356-062	0874_MW234_221012	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4653174)									
ET2205356-027	0874_MW015_221011	EP231X: Sum of PFAS	----	0.01	µg/L	595	601	1.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	439	445	1.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	555	561	1.0	0% - 20%
ET2205356-031	0874_MW054_221011	EP231X: Sum of PFAS	----	0.01	µg/L	127	130	2.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	104	107	2.7	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	122	124	2.4	0% - 20%
EP231P: PFAS Sums (QC Lot: 465560)									
ET2205356-062	0874_MW234_221012	EP231X: Sum of PFAS	----	0.01	µg/L	0.18	0.18	0.0	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.14	0.14	0.0	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.18	0.18	0.0	0% - 50%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4653172)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	104	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	115	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	116	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	117	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	120	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	110	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4653174)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	96.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	88.6	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	102	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	110	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	109	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4653175)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	104	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	101	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	109	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	103	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	86.7	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4655560)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	101	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	104	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	108	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	121	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	118	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4656435)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	79.8	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	85.2	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	84.7	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	80.5	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	87.1	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	80.5	53.0	142	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4653172)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	102	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	118	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	102	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	95.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	93.6	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4653174)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	100	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	91.8	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	96.4	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	100	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	88.2	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	78.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	80.4	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	104	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4653175)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.0	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	114	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	94.0	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.8	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	100	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	116	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	98.0	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4655560)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	100	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike	Spike Recovery (%)	Acceptable Limits (%)	
					Concentration	LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4655560) - continued								
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.4	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	97.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	92.0	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.6	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.2	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	106	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656435)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	85.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	81.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	90.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	80.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	82.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	88.6	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	89.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.0	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.4	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	75.7	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4653172)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	99.1	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.5	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.6	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	114	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4653174)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	91.7	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	89.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.9	68.3	134



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4653174) - continued									
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.9	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	105	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	83.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4653175)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	113	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	121	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	86.9	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	95.8	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.2	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	117	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4655560)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	115	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	92.8	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	81.3	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	94.9	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	114	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	95.2	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656435)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	92.4	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	96.4	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	70.7	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	83.6	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	70.7	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656435) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	73.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	75.2	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4653172)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	99.0	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	97.7	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4653174)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	108	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	98.2	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	114	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	108	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4653175)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	103	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	106	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	99.2	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	86.1	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4655560)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	99.6	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	98.6	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	93.3	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	91.3	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4656435)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	83.0	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	84.3	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	122	64.2	133	
EP231P: PFAS Sums (QCLot: 4653172)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----	
EP231P: PFAS Sums (QCLot: 4653174)									
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----	
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4653174) - continued								
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4653175)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4655560)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4656435)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: WATER

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4653174)							
ET2205356-022	0874_MW247_221010	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	95.6	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	87.6	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	103	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	118	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4653174)							
ET2205356-022	0874_MW247_221010	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	97.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	94.7	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	103	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	94.5	72.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4653174) - continued							
ET2205356-022	0874_MW247_221010	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	106	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	88.0	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	81.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	83.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	96.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	99.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	109	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4653174)							
ET2205356-022	0874_MW247_221010	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	110	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	85.1	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	99.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	114	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	87.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4653174)							
ET2205356-022	0874_MW247_221010	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	120	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	106	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	109	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	118	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2205356	Page	: 1 of 13
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 14-Oct-2022
Site	: QLD_0874_PFASOMP	Issue Date	: 04-Nov-2022
Sampler	: [REDACTED]	No. of samples received	: 72
Order number	: 60612487_2.1	No. of samples analysed	: 72

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231A: Perfluoroalkyl Sulfonic Acids - Continued									
0874_QC104_221010, 0874_MW046_221010, 0874_MW002_221010, 0874_MW056_221010, 0874_MW009_221010	0874_MW016_221010, 0874_MW055_221010, 0874_MW241_221010, 0874_MW135_221010,	10-Oct-2022	27-Oct-2022	08-Apr-2023	✓	27-Oct-2022	08-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_MW004_221010, 0874_QC502_221010,	0874_MW247_221010, 0874_QC304_221010	10-Oct-2022	27-Oct-2022	08-Apr-2023	✓	28-Oct-2022	08-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_MW021_221011, 0874_MW015_221011, 0874_MW109_221011, 0874_MW054_221011, 0874_QC105_221011, 0874_MW005_221011, 0874_MW122_221011, 0874_MW243_221011, 0874_MW057_221011, 0874_MW125_221011, 0874_MW244_221011, 0874_MW265_221011,	0874_MW251_221011, 0874_QC106_221011, 0874_MW090_221011, 0874_MW081_221011, 0874_MW242_221011, 0874_MW114_221011, 0874_MW246_221011, 0874_MW248_221011, 0874_MW038_221011, 0874_MW136_221011, 0874_MW043_221011, 0874_QC305_221011	11-Oct-2022	27-Oct-2022	09-Apr-2023	✓	28-Oct-2022	09-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_QC306_221012, 0874_MW139_221012, 0874_MW110_221012, 0874_MW112_221012, 0874_MW222_221012, 0874_QC107_221012,	0874_MW245_221012, 0874_MW138_221012, 0874_MW224_221012, 0874_MW063_221012, 0874_MW227_221012, 0874_MW142_221012	12-Oct-2022	27-Oct-2022	10-Apr-2023	✓	28-Oct-2022	10-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_MW229_221012, 0874_MW140_221012, 0874_MW118_221012	0874_MW234_221012, 0874_MW250_221012,	12-Oct-2022	28-Oct-2022	10-Apr-2023	✓	28-Oct-2022	10-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_MW033_221013		13-Oct-2022	24-Oct-2022	11-Apr-2023	✓	24-Oct-2022	11-Apr-2023	✓	
HDPE (no PTFE) (EP231X) 0874_MW026_221013, 0874_QC108_221013, 0874_MW061_221013,	0874_MW120_221013, 0874_MW034_221013, 0874_QC307_221013	13-Oct-2022	28-Oct-2022	11-Apr-2023	✓	28-Oct-2022	11-Apr-2023	✓	

Page : 5 of 13
 Work Order : ET2205356
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231B: Perfluoroalkyl Carboxylic Acids - Continued									
0874_MW026_221013, 0874_QC108_221013, 0874_MW061_221013,	0874_MW120_221013, 0874_MW034_221013, 0874_QC307_221013	13-Oct-2022	28-Oct-2022	11-Apr-2023	✓	28-Oct-2022	11-Apr-2023	✓	



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231C: Perfluoroalkyl Sulfonamides - Continued									
0874_MW026_221013, 0874_QC108_221013, 0874_MW061_221013,	0874_MW120_221013, 0874_MW034_221013, 0874_QC307_221013	13-Oct-2022	28-Oct-2022	11-Apr-2023	✓	28-Oct-2022	11-Apr-2023	✓	



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231D: (n:2) Fluorotelomer Sulfonic Acids - Continued									
0874_MW026_221013, 0874_QC108_221013, 0874_MW061_221013,	0874_MW120_221013, 0874_MW034_221013, 0874_QC307_221013	13-Oct-2022	28-Oct-2022	11-Apr-2023	✓	28-Oct-2022	11-Apr-2023	✓	

Page : 11 of 13
 Work Order : ET2205356
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis				
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation		
EP231P: PFAS Sums - Continued									
0874_MW026_221013, 0874_QC108_221013, 0874_MW061_221013,	0874_MW120_221013, 0874_MW034_221013, 0874_QC307_221013	13-Oct-2022	28-Oct-2022	11-Apr-2023	✓	28-Oct-2022	11-Apr-2023	✓	



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✘ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	80	3.75	10.00	✘	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	80	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	5	80	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	80	1.25	5.00	✘	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2205356

Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :

Laboratory : Environmental Division Townsville
Contact :
Address :

E-mail :
Telephone :
Facsimile :

E-mail :
Telephone :
Facsimile :

Project : QLD_0874_PFASOMP
Order number : 60612487_2.1

Page : 1 of 4
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)

C-O-C number : 43496
Site : QLD_0874_PFASOMP
Sampler :

QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 14-Oct-2022 08:40
Client Requested Due Date : 31-Oct-2022

Issue Date : 19-Oct-2022
Scheduled Reporting Date : 31-Oct-2022

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 1
Receipt Detail : MEDIUM ESKY

Security Seal : Intact.
Temperature : 1.8°C - Ice present
No. of samples received / analysed : 72 / 72

General Comments

- This report contains the following information:
- Sample Container(s)/Preservation Non-Compliances
- Summary of Sample(s) and Requested Analysis
- Proactive Holding Time Report
- Requested Deliverables
*Samples were originally received by ALS Townsville on 13/10/2022, and forwarded to ALS Brisbane for analysis.
*SRN Reissued 19/10/2022: To acknowledge request for updated sampling dates, and updated Sample ID.
Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
Please direct any turn around / technical queries to the laboratory contact designated above.
Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
An extra sample was received labelled as "MW033" (ALS # 72) and has been placed on hold. If testing is required on this sample, please contact ALS Client Services at
All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis.
Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2205356-001	08-Oct-2022 09:30	0874_MW205_221008	✓
ET2205356-002	08-Oct-2022 09:30	0874_QC100_221008	✓
ET2205356-003	08-Oct-2022 11:45	0874_MW267_221008	✓
ET2205356-004	08-Oct-2022 10:20	0874_MW211_221008	✓
ET2205356-005	08-Oct-2022 10:40	0874_MW213_221008	✓
ET2205356-006	08-Oct-2022 10:00	0874_MW471_221008	✓
ET2205356-007	08-Oct-2022 10:40	0874_QC103_221008	✓
ET2205356-008	08-Oct-2022 17:19	0874_QC303_221008	✓
ET2205356-009	08-Oct-2022 08:45	0874_MW253_221008	✓
ET2205356-010	08-Oct-2022 11:10	0874_MW264_221008	✓
ET2205356-011	08-Oct-2022 10:00	0874_QC102_221008	✓
ET2205356-012	10-Oct-2022 16:25	0874_QC104_221010	✓
ET2205356-013	10-Oct-2022 16:25	0874_MW016_221010	✓
ET2205356-014	10-Oct-2022 13:55	0874_MW046_221010	✓
ET2205356-015	10-Oct-2022 15:00	0874_MW055_221010	✓
ET2205356-016	10-Oct-2022 11:50	0874_MW002_221010	✓
ET2205356-017	10-Oct-2022 12:30	0874_MW241_221010	✓
ET2205356-018	10-Oct-2022 11:15	0874_MW056_221010	✓
ET2205356-019	10-Oct-2022 11:30	0874_MW135_221010	✓
ET2205356-020	10-Oct-2022 09:20	0874_MW009_221010	✓
ET2205356-021	10-Oct-2022 12:20	0874_MW004_221010	✓
ET2205356-022	10-Oct-2022 10:15	0874_MW247_221010	✓
ET2205356-023	10-Oct-2022 17:34	0874_QC502_221010	✓
ET2205356-024	10-Oct-2022 17:32	0874_QC304_221010	✓
ET2205356-025	11-Oct-2022 15:25	0874_MW021_221011	✓
ET2205356-026	11-Oct-2022 14:50	0874_MW251_221011	✓
ET2205356-027	11-Oct-2022 15:40	0874_MW015_221011	✓
ET2205356-028	11-Oct-2022 15:40	0874_QC106_221011	✓
ET2205356-029	11-Oct-2022 15:00	0874_MW109_221011	✓
ET2205356-030	11-Oct-2022 13:40	0874_MW090_221011	✓
ET2205356-031	11-Oct-2022 14:25	0874_MW054_221011	✓
ET2205356-032	11-Oct-2022 14:10	0874_MW081_221011	✓
ET2205356-033	11-Oct-2022 13:40	0874_QC105_221011	✓
ET2205356-034	11-Oct-2022 12:45	0874_MW242_221011	✓
ET2205356-035	11-Oct-2022 13:55	0874_MW005_221011	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
ET2205356-036	11-Oct-2022 11:55	0874_MW114_221011	✓	
ET2205356-037	11-Oct-2022 12:25	0874_MW122_221011	✓	
ET2205356-038	11-Oct-2022 13:20	0874_MW246_221011	✓	
ET2205356-039	11-Oct-2022 08:50	0874_MW243_221011	✓	
ET2205356-040	11-Oct-2022 11:30	0874_MW248_221011	✓	
ET2205356-041	11-Oct-2022 12:10	0874_MW057_221011	✓	
ET2205356-042	11-Oct-2022 11:15	0874_MW038_221011	✓	
ET2205356-043	11-Oct-2022 11:00	0874_MW125_221011	✓	
ET2205356-044	11-Oct-2022 09:05	0874_MW136_221011	✓	
ET2205356-045	11-Oct-2022 09:25	0874_MW244_221011	✓	
ET2205356-046	11-Oct-2022 11:40	0874_MW043_221011	✓	
ET2205356-047	11-Oct-2022 08:35	0874_MW265_221011	✓	
ET2205356-048	11-Oct-2022 17:36	0874_QC305_221011	✓	
ET2205356-049	12-Oct-2022 16:03	0874_QC306_221012	✓	
ET2205356-050	12-Oct-2022 14:30	0874_MW245_221012	✓	
ET2205356-051	12-Oct-2022 15:00	0874_MW139_221012	✓	
ET2205356-052	12-Oct-2022 15:15	0874_MW138_221012	✓	
ET2205356-053	12-Oct-2022 14:45	0874_MW110_221012	✓	
ET2205356-054	12-Oct-2022 13:30	0874_MW224_221012	✓	
ET2205356-055	12-Oct-2022 14:20	0874_MW112_221012	✓	
ET2205356-056	12-Oct-2022 12:10	0874_MW063_221012	✓	
ET2205356-057	12-Oct-2022 13:50	0874_MW222_221012	✓	
ET2205356-058	12-Oct-2022 10:55	0874_MW227_221012	✓	
ET2205356-059	12-Oct-2022 13:30	0874_QC107_221012	✓	
ET2205356-060	12-Oct-2022 08:25	0874_MW142_221012	✓	
ET2205356-061	12-Oct-2022 10:30	0874_MW229_221012	✓	
ET2205356-062	12-Oct-2022 09:25	0874_MW234_221012	✓	
ET2205356-063	12-Oct-2022 07:50	0874_MW140_221012	✓	
ET2205356-064	12-Oct-2022 08:10	0874_MW250_221012	✓	
ET2205356-065	12-Oct-2022 08:40	0874_MW118_221012	✓	
ET2205356-066	13-Oct-2022 09:50	0874_MW026_221013	✓	
ET2205356-067	13-Oct-2022 10:10	0874_MW120_221013	✓	
ET2205356-068	13-Oct-2022 10:10	0874_QC108_221013	✓	
ET2205356-069	13-Oct-2022 10:25	0874_MW034_221013	✓	
ET2205356-070	13-Oct-2022 10:50	0874_MW061_221013	✓	
ET2205356-071	13-Oct-2022 11:54	0874_QC307_221013	✓	
ET2205356-072	13-Oct-2022 10:35	0874_MW033_221013	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

Email

Email

Email

Email

Email

Email

Email

Email



DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

Email

Email

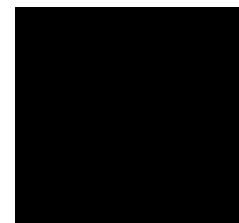
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Email





CERTIFICATE OF ANALYSIS

Work Order : ET2205495
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43667
Sampler :
Site : 0874_PFAS OMP_RAAF
Quote number : TV/007/21 v2 - Compass
No. of samples received : 62
No. of samples analysed : 62

Page : 1 of 29
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 21-Oct-2022 09:40
Date Analysis Commenced : 24-Oct-2022
Issue Date : 04-Nov-2022 14:19



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
Analytical Results
Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and Assistant Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: The LOR of particular analytes have been raised due to sample matrix interferences.
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. Surrogate recovery has not been determined and LOR values have been adjusted accordingly.
- EP231X PFAS: The LOR values of particular analytes for particular samples have been raised due to matrix interferences.
- EP231X-(PFAS): The limit of reporting of Sample '0874_MW219_221019' (ET2205495-062) has been raised due to sample matrix interference need dilution .
- EP231X-(PFAS): High LCS recovery deemed acceptable as all associated analyte results are less than limit of reporting.
- EP231X PFAS: Sample '0874_SD102_221017' (ET2205495-021) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD201_221014	0874_SD116_221014	0874_SD208_221014	0874_SD107_221014	0874_SD110_221014
Sampling date / time				14-Oct-2022 10:39	14-Oct-2022 11:47	14-Oct-2022 12:29	14-Oct-2022 13:22	14-Oct-2022 14:03	
Compound	CAS Number	LOR	Unit	ET2205495-001	ET2205495-003	ET2205495-005	ET2205495-007	ET2205495-008	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	20.0	30.6	30.8	36.0	3.3	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0030	0.0019	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.0018	0.0014	0.0098	0.0119	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0003	<0.0002	0.0004	0.0007	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD201_221014	0874_SD116_221014	0874_SD208_221014	0874_SD107_221014	0874_SD110_221014
Sampling date / time				14-Oct-2022 10:39	14-Oct-2022 11:47	14-Oct-2022 12:29	14-Oct-2022 13:22	14-Oct-2022 14:03	
Compound	CAS Number	LOR	Unit	ET2205495-001	ET2205495-003	ET2205495-005	ET2205495-007	ET2205495-008	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	0.0023	0.0014	0.0132	0.0148	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	0.0018	0.0014	0.0128	0.0138	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	0.0023	0.0014	0.0132	0.0148	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	110	117	114	104	85.0	
13C8-PFOA	----	0.0002	%	107	101	115	104	92.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_QC117_221014	0874_SD111_221014	0874_SD210_221014	0874_QC116_221014	0874_SD108_221014
Sampling date / time				14-Oct-2022 14:04	14-Oct-2022 14:33	14-Oct-2022 15:17	14-Oct-2022 15:18	14-Oct-2022 15:42	
Compound	CAS Number	LOR	Unit	ET2205495-009	ET2205495-012	ET2205495-014	ET2205495-015	ET2205495-018	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	2.5	40.0	37.4	35.4	25.6	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0007	0.0003	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0003	0.0006	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0040	0.0098	<0.0002	<0.0002	0.0004	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.0012	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0152	0.0599	0.0004	0.0010	0.0022	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0004	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0014	0.0011	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_QC117_221014	0874_SD111_221014	0874_SD210_221014	0874_QC116_221014	0874_SD108_221014
Sampling date / time				14-Oct-2022 14:04	14-Oct-2022 14:33	14-Oct-2022 15:17	14-Oct-2022 15:18	14-Oct-2022 15:42	
Compound	CAS Number	LOR	Unit	ET2205495-009	ET2205495-012	ET2205495-014	ET2205495-015	ET2205495-018	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0220	0.0735	0.0004	0.0010	0.0026	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0192	0.0697	0.0004	0.0010	0.0026	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0217	0.0717	0.0004	0.0010	0.0026	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	125	100	121	113	136	
13C8-PFOA	----	0.0002	%	125	99.0	120	102	130	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD102_221017	0874_SD013_221017	0874_SD016_221017	0874_SD125_221017	0874_QC111_221017
Sampling date / time				17-Oct-2022 09:40	17-Oct-2022 10:08	17-Oct-2022 10:27	17-Oct-2022 11:13	17-Oct-2022 11:14	
Compound	CAS Number	LOR	Unit	ET2205495-021	ET2205495-022	ET2205495-023	ET2205495-024	ET2205495-025	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	64.2	51.3	63.6	8.5	8.2	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0377	0.0028	0.0005	0.258	0.230	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0279	0.0057	0.0006	0.389	0.393	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.136	0.0807	0.0087	3.54	4.08	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0032	0.0107	0.0007	0.230	0.252	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.122	0.669	0.0452	3.18	2.32	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0034	0.0091	0.0007	<0.0049	<0.0049	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	0.010	<0.010	<0.001	0.038	0.032	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0097	<0.0020	<0.0002	0.108	0.102	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0754	0.0089	0.0014	0.849	0.764	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0035	<0.0020	<0.0002	0.0868	0.0978	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0031	0.0024	0.0004	0.159	0.181	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0049	<0.0005	<0.0123	<0.0123	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0049	<0.0005	<0.0123	<0.0123	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD102_221017	0874_SD013_221017	0874_SD016_221017	0874_SD125_221017	0874_QC111_221017
Sampling date / time				17-Oct-2022 09:40	17-Oct-2022 10:08	17-Oct-2022 10:27	17-Oct-2022 11:13	17-Oct-2022 11:14	
Compound	CAS Number	LOR	Unit	ET2205495-021	ET2205495-022	ET2205495-023	ET2205495-024	ET2205495-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0049	<0.0005	<0.0123	<0.0123	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0049	<0.0005	<0.0123	<0.0123	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0049	<0.0005	<0.0123	<0.0123	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0020	<0.0002	<0.0049	<0.0049	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0020	<0.0005	<0.0049	<0.0049	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0020	<0.0005	<0.0049	<0.0049	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0020	<0.0005	<0.0049	<0.0049	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0020	<0.0005	<0.0049	<0.0049	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.432	0.789	0.0582	8.84	8.45	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.258	0.750	0.0539	6.72	6.40	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.397	0.764	0.0562	8.22	7.81	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	109	Not Determined	112	Not Determined	Not Determined	
13C8-PFOA	----	0.0002	%	103	Not Determined	104	Not Determined	Not Determined	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD123_221017	0874_SD019_221017	0874_SD001_221017	0874_SD106_221017	0874_SD132_221017
Sampling date / time				17-Oct-2022 11:41	17-Oct-2022 11:57	17-Oct-2022 12:23	17-Oct-2022 13:18	17-Oct-2022 14:00	
Compound	CAS Number	LOR	Unit	ET2205495-026	ET2205495-029	ET2205495-030	ET2205495-031	ET2205495-033	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	26.7	21.4	0.6	20.1	1.5	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0003	0.0089	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0003	0.0108	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0039	0.114	0.0012	0.0008	0.0007	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0006	0.0136	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0532	0.700	0.0116	0.0091	0.0086	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0062	0.0250	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.003	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	0.0082	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	0.0297	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0043	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0102	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.0023	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.0014	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.0018	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0005	0.0023	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.0011	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0042	0.0364	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD123_221017	0874_SD019_221017	0874_SD001_221017	0874_SD106_221017	0874_SD132_221017
Sampling date / time				17-Oct-2022 11:41	17-Oct-2022 11:57	17-Oct-2022 12:23	17-Oct-2022 13:18	17-Oct-2022 14:00	
Compound	CAS Number	LOR	Unit	ET2205495-026	ET2205495-029	ET2205495-030	ET2205495-031	ET2205495-033	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0006	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.0020	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0014	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0709	0.977	0.0128	0.0099	0.0093	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0571	0.814	0.0128	0.0099	0.0093	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0591	0.882	0.0128	0.0099	0.0093	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	112	115	104	95.5	113	
13C8-PFOA	----	0.0002	%	108	120	99.0	104	102	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD121_221017	0874_SD010_221017	0874_SD202_221018	0874_SD205_221018	0874_SD206_221018
Sampling date / time				17-Oct-2022 14:04	17-Oct-2022 14:46	18-Oct-2022 09:49	18-Oct-2022 10:39	18-Oct-2022 11:02	
Compound	CAS Number	LOR	Unit	ET2205495-034	ET2205495-035	ET2205495-038	ET2205495-040	ET2205495-042	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	32.7	41.4	35.1	31.0	30.4	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0032	0.0021	<0.0002	<0.0002	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0004	<0.0004	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0281	0.0201	0.0021	0.0018	0.0010	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0003	0.0004	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD121_221017	0874_SD010_221017	0874_SD202_221018	0874_SD205_221018	0874_SD206_221018
Sampling date / time				17-Oct-2022 14:04	17-Oct-2022 14:46	18-Oct-2022 09:49	18-Oct-2022 10:39	18-Oct-2022 11:02	
Compound	CAS Number	LOR	Unit	ET2205495-034	ET2205495-035	ET2205495-038	ET2205495-040	ET2205495-042	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0316	0.0237	0.0021	0.0018	0.0010	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0313	0.0222	0.0021	0.0018	0.0010	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0316	0.0234	0.0021	0.0018	0.0010	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	91.0	112	84.0	122	91.5	
13C8-PFOA	----	0.0002	%	114	124	110	112	120	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD207_221018	0874_SD203_221018	0874_SD204_221018	0874_SD131_221019	0874_QC115_221019
Sampling date / time				18-Oct-2022 11:21	18-Oct-2022 11:51	18-Oct-2022 12:09	19-Oct-2022 15:11	19-Oct-2022 15:12	
Compound	CAS Number	LOR	Unit	ET2205495-044	ET2205495-046	ET2205495-048	ET2205495-056	ET2205495-057	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	39.0	31.1	37.5	33.7	28.8	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0047	0.0018	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0027	0.0024	0.0012	0.0222	0.0128	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0009	0.0004	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD207_221018	0874_SD203_221018	0874_SD204_221018	0874_SD131_221019	0874_QC115_221019
Sampling date / time					18-Oct-2022 11:21	18-Oct-2022 11:51	18-Oct-2022 12:09	19-Oct-2022 15:11	19-Oct-2022 15:12
Compound	CAS Number	LOR	Unit		ET2205495-044	ET2205495-046	ET2205495-048	ET2205495-056	ET2205495-057
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0027	0.0024	0.0012	0.0292	0.0150	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0027	0.0024	0.0012	0.0269	0.0146	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0027	0.0024	0.0012	0.0284	0.0150	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	94.0	116	92.5	96.0	94.5	
13C8-PFOA	----	0.0002	%	122	116	123	118	119	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_221014	0874_SW116_221014	0874_SW208_221014	0874_SW110_221014	0874_QC110_221014
Sampling date / time				14-Oct-2022 11:20	14-Oct-2022 11:48	14-Oct-2022 12:31	14-Oct-2022 14:04	14-Oct-2022 14:05	
Compound	CAS Number	LOR	Unit	ET2205495-002	ET2205495-004	ET2205495-006	ET2205495-010	ET2205495-011	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.04	<0.02	0.41	0.41	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.02	<0.02	0.38	0.39	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.14	<0.01	3.14	3.06	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.18	0.18	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.18	0.01	3.39	3.80	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.2	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.23	0.21	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.06	<0.02	1.14	1.14	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.11	0.10	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	<0.01	0.20	0.20	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW201_221014	0874_SW116_221014	0874_SW208_221014	0874_SW110_221014	0874_QC110_221014
Sampling date / time					14-Oct-2022 11:20	14-Oct-2022 11:48	14-Oct-2022 12:31	14-Oct-2022 14:04	14-Oct-2022 14:05
Compound	CAS Number	LOR	Unit	ET2205495-002	ET2205495-004	ET2205495-006	ET2205495-010	ET2205495-011	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	0.45	0.01	9.38	9.69	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.32	0.01	6.53	6.86	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.43	0.01	8.82	9.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.0	106	91.0	107	100	
13C8-PFOA	----	0.02	%	104	105	103	104	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW111_221014	0874_SW210_221014	0874_QC109_221014	0874_SW108_221014	0874_QC308_221014
Sampling date / time				14-Oct-2022 14:33	14-Oct-2022 15:18	14-Oct-2022 15:19	14-Oct-2022 15:43	14-Oct-2022 15:44	
Compound	CAS Number	LOR	Unit	ET2205495-013	ET2205495-016	ET2205495-017	ET2205495-019	ET2205495-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.32	<0.02	<0.02	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.31	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.40	<0.01	<0.01	0.09	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.12	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.27	<0.01	<0.01	0.02	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.16	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.86	<0.02	<0.02	0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.08	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.12	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW111_221014	0874_SW210_221014	0874_QC109_221014	0874_SW108_221014	0874_QC308_221014
Sampling date / time				14-Oct-2022 14:33	14-Oct-2022 15:18	14-Oct-2022 15:19	14-Oct-2022 15:43	14-Oct-2022 15:44	
Compound	CAS Number	LOR	Unit	ET2205495-013	ET2205495-016	ET2205495-017	ET2205495-019	ET2205495-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.74	<0.01	<0.01	0.15	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.67	<0.01	<0.01	0.11	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.31	<0.01	<0.01	0.15	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	95.8	94.3	104	103	91.7	
13C8-PFOA	----	0.02	%	101	105	102	106	99.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_221017	0874_QC112_221017	0874_SW106_221017	0874_SW010_221017	0874_QC309_221017
Sampling date / time				17-Oct-2022 11:42	17-Oct-2022 11:43	17-Oct-2022 13:18	17-Oct-2022 14:46	17-Oct-2022 14:51	
Compound	CAS Number	LOR	Unit	ET2205495-027	ET2205495-028	ET2205495-032	ET2205495-036	ET2205495-037	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.69	0.68	0.06	<0.12	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.63	0.64	0.02	0.05	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.44	4.51	0.17	0.43	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.45	0.43	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.3	10.0	0.08	0.65	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	0.07	0.08	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	<0.1	<0.2	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.35	0.36	<0.02	0.21	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.50	1.57	0.04	0.26	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.20	0.20	<0.02	0.13	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.35	0.35	<0.01	0.13	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.03	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.02	0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW123_221017	0874_QC112_221017	0874_SW106_221017	0874_SW010_221017	0874_QC309_221017
Sampling date / time					17-Oct-2022 11:42	17-Oct-2022 11:43	17-Oct-2022 13:18	17-Oct-2022 14:46	17-Oct-2022 14:51
Compound	CAS Number	LOR	Unit	ET2205495-027	ET2205495-028	ET2205495-032	ET2205495-036	ET2205495-037	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.07	0.07	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	19.3	19.1	0.37	1.89	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	14.7	14.5	0.25	1.08	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	18.1	17.9	0.35	1.81	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	103	104	110	112	
13C8-PFOA	----	0.02	%	107	103	103	97.9	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW202_221018	0874_SW205_221018	0874_SW206_221018	0874_SW207_221018	0874_SW203_221018
Sampling date / time				18-Oct-2022 09:50	18-Oct-2022 10:40	18-Oct-2022 11:03	18-Oct-2022 11:22	18-Oct-2022 11:51	
Compound	CAS Number	LOR	Unit	ET2205495-039	ET2205495-041	ET2205495-043	ET2205495-045	ET2205495-047	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	0.18	0.11	0.11	0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	0.15	0.11	0.11	0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	0.18	0.11	0.11	0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	113	102	110	110	107	
13C8-PFOA	----	0.02	%	100	98.7	95.1	98.1	97.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW204_221018	0874_QC310_221018	0874_MW255_221019	0874_QC113_221019	0874_MW013_221019
Sampling date / time					18-Oct-2022 12:10	18-Oct-2022 12:47	19-Oct-2022 13:46	19-Oct-2022 13:47	19-Oct-2022 14:26
Compound	CAS Number	LOR	Unit	ET2205495-049	ET2205495-050	ET2205495-051	ET2205495-052	ET2205495-053	ET2205495-053
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.02	18.8	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	19.4	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.01	0.02	84.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	17.0	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	<0.01	0.02	0.02	59.9	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	45.0	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	12.4	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	66.4	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	11.8	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	18.4	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.20	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.20	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.20	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW204_221018	0874_QC310_221018	0874_MW255_221019	0874_QC113_221019	0874_MW013_221019
Sampling date / time				18-Oct-2022 12:10	18-Oct-2022 12:47	19-Oct-2022 13:46	19-Oct-2022 13:47	19-Oct-2022 14:26	
Compound	CAS Number	LOR	Unit	ET2205495-049	ET2205495-050	ET2205495-051	ET2205495-052	ET2205495-053	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.20	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.20	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.08	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.08	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	4.57	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.08	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.08	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	<0.01	0.03	0.06	358	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	<0.01	0.03	0.04	144	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	<0.01	0.03	0.06	322	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	102	102	100	108	
13C8-PFOA	----	0.02	%	104	103	101	104	112	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW126_221019	0874_QC114_221019	0874_SW131_221019	0874_MW226_221019	0874_QC311_221019
Sampling date / time					19-Oct-2022 15:09	19-Oct-2022 15:10	19-Oct-2022 15:31	19-Oct-2022 17:26	19-Oct-2022 17:36
Compound	CAS Number	LOR	Unit	ET2205495-054	ET2205495-055	ET2205495-058	ET2205495-059	ET2205495-060	ET2205495-060
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	7.82	7.68	6.12	0.04		<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.72	5.54	4.04	0.04		<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	7.33	7.17	5.65	0.04		<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	96.5	89.5	105		108
13C8-PFOA	----	0.02	%	104	103	102	102		104



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID		0874_QC503_221019	0874_MW219_221019	----	----	----
Sampling date / time				19-Oct-2022 17:37	19-Oct-2022 16:40	----	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2205495-061	ET2205495-062	-----	-----	-----	-----	-----
				Result	Result	----	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids										
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.02	----	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.02	----	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids										
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.02	----	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	----	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides										
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	----	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	----	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC503_221019	0874_MW219_221019	----	----	----
Sampling date / time				19-Oct-2022 17:37	19-Oct-2022 16:40	----	----	----	
Compound	CAS Number	LOR	Unit	ET2205495-061	ET2205495-062	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.02	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.02	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.02	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	111	----	----	----	
13C8-PFOA	----	0.02	%	105	102	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : ET2205495
Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43667
Sampler :
Site : 0874_PFAS OMP_RAAF
Quote number : TV/007/21 v2 - Compass
No. of samples received : 62
No. of samples analysed : 62

Page : 1 of 16
Laboratory : Environmental Division Townsville
Contact :
Address :
Telephone :
Date Samples Received : 21-Oct-2022
Date Analysis Commenced : 24-Oct-2022
Issue Date : 04-Nov-2022



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Inorganic Chemist and Assistant Laboratory Manager.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4656221)									
ET2205495-001	0874_SD201_221014	EA055: Moisture Content	----	0.1	%	20.0	20.3	1.5	0% - 20%
ET2205495-021	0874_SD102_221017	EA055: Moisture Content	----	0.1	%	64.2	63.8	0.7	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4656227)									
EB2231202-001	Anonymous	EA055: Moisture Content	----	0.1	%	42.0	45.5	8.1	0% - 20%
ET2205495-038	0874_SD202_221018	EA055: Moisture Content	----	0.1	%	35.1	36.8	4.7	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4656220)									
ET2205495-001	0874_SD201_221014	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2205495-021	0874_SD102_221017	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0377	# 0.0184	68.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0279	# 0.0115	83.3	0% - 20%
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.136	# 0.0556	83.6	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0032	# 0.0012	87.4	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.122	# 0.0545	76.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0034	# 0.0013	90.6	0% - 50%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4656226)									
EB2231036-011	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0005	0.0006	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4656226) - continued									
EB2231036-011	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0006	26.3	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2205495-035	0874_SD010_221017	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0004	<0.0002	66.7	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0021	0.0014	35.8	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0004	<0.0002	66.7	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0201	0.0174	14.2	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4656220)									
ET2205495-001	0874_SD201_221014	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		ET2205495-021	0874_SD102_221017	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0097	# 0.0051
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.0002	mg/kg	0.0754	# 0.0324	79.7	0% - 20%
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.0002	mg/kg	0.0035	# 0.0014	88.2	0% - 50%
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1			0.0002	mg/kg	0.0031	# 0.0014	76.3	0% - 50%
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.001	mg/kg	0.010	0.005	62.1	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4656226)									
EB2231036-011	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4656226) - continued									
EB2231036-011	Anonymous	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ET2205495-035	0874_SD1010_221017	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0004	0.0003	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0004	<0.0002	66.7	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0006	0.0005	22.9	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	0.0003	0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4656220)									
ET2205495-001	0874_SD201_221014	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205495-021	0874_SD102_221017	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4656226)									
EB2231036-011	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205495-035	0874_SD010_221017	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4656220)									
ET2205495-001	0874_SD201_221014	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205495-021	0874_SD102_221017	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4656220) - continued									
ET2205495-021	0874_SD102_221017	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4656226)									
EB2231036-011	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2205495-035	0874_SD010_221017	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4658533)									
ET2205495-002	0874_SW201_221014	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	0.02	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4658533)									
ET2205495-002	0874_SW201_221014	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4658533)									
ET2205495-002	0874_SW201_221014	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4658533)									
ET2205495-002	0874_SW201_221014	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4658533)									
ET2205495-002	0874_SW201_221014	EP231X: Sum of PFAS	----	0.01	µg/L	0.01	0.02	66.7	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.02	66.7	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	0.02	66.7	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4656220)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	92.3	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	95.3	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	108	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	109	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	102	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	100	59.0	134	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4656226)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	98.2	72.0	128	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	84.2	73.0	123	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	95.8	67.0	130	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	91.6	70.0	132	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	97.4	68.0	136	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	90.0	59.0	134	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656220)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	105	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.8	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.4	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.8	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.4	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.8	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.2	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	69.0	133	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656226)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	88.3	71.0	135	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	69.0	132	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	70.0	132	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	71.0	131	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.0	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.8	64.0	136	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656226) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.8	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	100	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656220)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	84.4	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	113	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.8	61.0	139	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656226)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	105	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	98.6	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	86.8	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	98.1	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.0	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4656220)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	109	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	99.2	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	116	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	112	54.8	124	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4656226)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	91.9	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	124	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	91.2	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	92.5	54.8	124	

Sub-Matrix: WATER

Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
	Spike	Spike Recovery (%)	Acceptable Limits (%)



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4658533)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	102	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	110	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	109	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.3	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	98.1	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4658536)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	112	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	117	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	115	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	124	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	113	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	99.4	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4676679)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	119	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	106	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	119	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	122	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	131	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	122	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4658533)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	96.0	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	87.8	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	93.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	91.8	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	94.8	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.2	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	101	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4658536)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	107	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	122	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Acceptable Limits (%)	
					Concentration	LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4658536) - continued									
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	110	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	108	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4676679)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	121	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	129	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	119	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	123	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	118	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	118	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	126	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4658533)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	103	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	89.0	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	99.3	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	92.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4658536)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	133	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	105	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	101	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	104	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4658536) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	127	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	103	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4676679)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	# 141	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	# 147	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	118	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	123	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	116	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	130	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	122	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4658533)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	118	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	102	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	100	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	71.6	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4658536)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	109	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	127	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	116	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4676679)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	134	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	120	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	109	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	120	64.2	133
EP231P: PFAS Sums (QCLot: 4658533)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4658536)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231P: PFAS Sums (QCLot: 4658536) - continued								
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 4676679)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
					Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4656220)							
ET2205495-003	0874_SD116_221014	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	94.5	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	102	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	118	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	108	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	110	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	59.2	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4656226)							
EB2231202-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	99.5	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	105	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	110	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	101	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	85.3	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	112	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656220)							
ET2205495-003	0874_SD116_221014	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	106	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	106	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	115	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	95.6	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	95.6	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	92.4	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	91.6	69.0	133



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656220) - continued							
ET2205495-003	0874_SD116_221014	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	107	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	92.8	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	115	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	114	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4656226)							
EB2231202-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	92.8	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	92.8	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	105	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	108	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	111	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	99.2	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	106	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	110	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	102	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	110	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	104	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656220)							
ET2205495-003	0874_SD116_221014	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	117	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	97.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	94.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	104	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	94.8	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	106	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656226)							
EB2231202-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	109	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	99.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	100	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	102	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	103	70.0	130



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4656226) - continued							
EB2231202-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	110	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	102	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4656220)							
ET2205495-003	0874_SD116_221014	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	115	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	128	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	113	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	72.5	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4656226)							
EB2231202-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	110	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	111	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	72.5	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4658533)							
ET2205495-047	0874_SW203_221018	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	98.9	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	105	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	108	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	104	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	102	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	93.9	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4658533)							
ET2205495-047	0874_SW203_221018	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	99.7	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.8	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	114	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	112	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	89.1	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	92.3	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	90.5	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	94.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	99.2	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	103	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4658533)					



Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4658533) - continued							
ET2205495-047	0874_SW203_221018	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	97.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	100	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	93.6	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	89.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	109	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	96.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4658533)							
ET2205495-047	0874_SW203_221018	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	109	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	99.1	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	86.2	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	80.5	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2205495	Page	: 1 of 13
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP	Date Samples Received	: 21-Oct-2022
Site	: 0874_PFAS OMP_RAAF	Issue Date	: 04-Nov-2022
Sampler	: [REDACTED]	No. of samples received	: 62
Order number	: 60612487_2.1	No. of samples analysed	: 62

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Matrix Spike outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Laboratory Control outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluorobutane sulfonic acid (PFBS)	375-73-5	68.6 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	83.3 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	83.6 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	87.4 %	0% - 50%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	76.4 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2205495--021	0874_SD102_221017	Perfluorodecane sulfonic acid (PFDS)	335-77-3	90.6 %	0% - 50%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205495--021	0874_SD102_221017	Perfluoropentanoic acid (PFPeA)	2706-90-3	61.2 %	0% - 20%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205495--021	0874_SD102_221017	Perfluorohexanoic acid (PFHxA)	307-24-4	79.7 %	0% - 20%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205495--021	0874_SD102_221017	Perfluoroheptanoic acid (PFHpA)	375-85-9	88.2 %	0% - 50%	RPD exceeds LOR based limits
EP231B: Perfluoroalkyl Carboxylic Acids	ET2205495--021	0874_SD102_221017	Perfluorooctanoic acid (PFOA)	335-67-1	76.3 %	0% - 50%	RPD exceeds LOR based limits

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP231C: Perfluoroalkyl Sulfonamides	QC-4676679-002	----	Perfluorooctane sulfonamide (FOSA)	754-91-6	141 %	67.0-137%	Recovery greater than upper control limit
EP231C: Perfluoroalkyl Sulfonamides	QC-4676679-002	----	N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	147 %	68.0-141%	Recovery greater than upper control limit

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	59	1.69	10.00	NEPM 2013 B3 & ALS QC Standard



Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	59	1.69	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	----	----	----	24-Oct-2022	28-Oct-2022	✓
HDPE Soil Jar (EA055) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017, 0874_SD121_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017, 0874_SD010_221017	17-Oct-2022	----	----	----	24-Oct-2022	31-Oct-2022	✓
HDPE Soil Jar (EA055) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	----	----	----	24-Oct-2022	01-Nov-2022	✓
HDPE Soil Jar (EA055) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	----	----	----	24-Oct-2022	02-Nov-2022	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	25-Oct-2022	12-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017	17-Oct-2022	25-Oct-2022	15-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD121_221017,	0874_SD010_221017	17-Oct-2022	26-Oct-2022	15-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	26-Oct-2022	16-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	26-Oct-2022	17-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	25-Oct-2022	12-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017	17-Oct-2022	25-Oct-2022	15-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD121_221017,	0874_SD010_221017	17-Oct-2022	26-Oct-2022	15-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	26-Oct-2022	16-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	26-Oct-2022	17-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	25-Oct-2022	12-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017	17-Oct-2022	25-Oct-2022	15-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD121_221017,	0874_SD010_221017	17-Oct-2022	26-Oct-2022	15-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	26-Oct-2022	16-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	26-Oct-2022	17-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	25-Oct-2022	12-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017	17-Oct-2022	25-Oct-2022	15-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD121_221017,	0874_SD010_221017	17-Oct-2022	26-Oct-2022	15-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	26-Oct-2022	16-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	26-Oct-2022	17-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD201_221014, 0874_SD208_221014, 0874_SD110_221014, 0874_SD111_221014, 0874_QC116_221014,	0874_SD116_221014, 0874_SD107_221014, 0874_QC117_221014, 0874_SD210_221014, 0874_SD108_221014	14-Oct-2022	25-Oct-2022	12-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD102_221017, 0874_SD016_221017, 0874_QC111_221017, 0874_SD019_221017, 0874_SD106_221017,	0874_SD013_221017, 0874_SD125_221017, 0874_SD123_221017, 0874_SD001_221017, 0874_SD132_221017	17-Oct-2022	25-Oct-2022	15-Apr-2023	✓	28-Oct-2022	04-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD121_221017,	0874_SD010_221017	17-Oct-2022	26-Oct-2022	15-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD202_221018, 0874_SD206_221018, 0874_SD203_221018,	0874_SD205_221018, 0874_SD207_221018, 0874_SD204_221018	18-Oct-2022	26-Oct-2022	16-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓
HDPE Soil Jar (EP231X) 0874_SD131_221019,	0874_QC115_221019	19-Oct-2022	26-Oct-2022	17-Apr-2023	✓	28-Oct-2022	05-Dec-2022	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW201_221014, 0874_SW208_221014, 0874_QC110_221014, 0874_SW210_221014, 0874_SW108_221014,	0874_SW116_221014, 0874_SW110_221014, 0874_SW111_221014, 0874_QC109_221014, 0874_QC308_221014	14-Oct-2022	31-Oct-2022	12-Apr-2023	✔	01-Nov-2022	12-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW123_221017, 0874_SW106_221017, 0874_QC309_221017	0874_QC112_221017, 0874_SW010_221017,	17-Oct-2022	31-Oct-2022	15-Apr-2023	✔	01-Nov-2022	15-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW202_221018, 0874_SW206_221018, 0874_SW203_221018	0874_SW205_221018, 0874_SW207_221018,	18-Oct-2022	31-Oct-2022	16-Apr-2023	✔	01-Nov-2022	16-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW204_221018,	0874_QC310_221018	18-Oct-2022	31-Oct-2022	16-Apr-2023	✔	31-Oct-2022	16-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW219_221019		19-Oct-2022	02-Nov-2022	17-Apr-2023	✔	03-Nov-2022	17-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW255_221019, 0874_MW013_221019, 0874_QC114_221019, 0874_MW226_221019, 0874_QC503_221019	0874_QC113_221019, 0874_SW126_221019, 0874_SW131_221019, 0874_QC311_221019,	19-Oct-2022	31-Oct-2022	17-Apr-2023	✔	31-Oct-2022	17-Apr-2023	✔



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW201_221014, 0874_SW208_221014, 0874_QC110_221014, 0874_SW210_221014, 0874_SW108_221014,	0874_SW116_221014, 0874_SW110_221014, 0874_SW111_221014, 0874_QC109_221014, 0874_QC308_221014	14-Oct-2022	31-Oct-2022	12-Apr-2023	✓	01-Nov-2022	12-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW123_221017, 0874_SW106_221017, 0874_QC309_221017	0874_QC112_221017, 0874_SW010_221017,	17-Oct-2022	31-Oct-2022	15-Apr-2023	✓	01-Nov-2022	15-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW202_221018, 0874_SW206_221018, 0874_SW203_221018	0874_SW205_221018, 0874_SW207_221018,	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	01-Nov-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW204_221018,	0874_QC310_221018	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	31-Oct-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW219_221019		19-Oct-2022	02-Nov-2022	17-Apr-2023	✓	03-Nov-2022	17-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW255_221019, 0874_MW013_221019, 0874_QC114_221019, 0874_MW226_221019, 0874_QC503_221019	0874_QC113_221019, 0874_SW126_221019, 0874_SW131_221019, 0874_QC311_221019,	19-Oct-2022	31-Oct-2022	17-Apr-2023	✓	31-Oct-2022	17-Apr-2023	✓



Matrix: **WATER** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW201_221014, 0874_SW208_221014, 0874_QC110_221014, 0874_SW210_221014, 0874_SW108_221014,	0874_SW116_221014, 0874_SW110_221014, 0874_SW111_221014, 0874_QC109_221014, 0874_QC308_221014	14-Oct-2022	31-Oct-2022	12-Apr-2023	✔	01-Nov-2022	12-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW123_221017, 0874_SW106_221017, 0874_QC309_221017	0874_QC112_221017, 0874_SW010_221017,	17-Oct-2022	31-Oct-2022	15-Apr-2023	✔	01-Nov-2022	15-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW202_221018, 0874_SW206_221018, 0874_SW203_221018	0874_SW205_221018, 0874_SW207_221018,	18-Oct-2022	31-Oct-2022	16-Apr-2023	✔	01-Nov-2022	16-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW204_221018,	0874_QC310_221018	18-Oct-2022	31-Oct-2022	16-Apr-2023	✔	31-Oct-2022	16-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW219_221019		19-Oct-2022	02-Nov-2022	17-Apr-2023	✔	03-Nov-2022	17-Apr-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW255_221019, 0874_MW013_221019, 0874_QC114_221019, 0874_MW226_221019, 0874_QC503_221019	0874_QC113_221019, 0874_SW126_221019, 0874_SW131_221019, 0874_QC311_221019,	19-Oct-2022	31-Oct-2022	17-Apr-2023	✔	31-Oct-2022	17-Apr-2023	✔



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW201_221014, 0874_SW208_221014, 0874_QC110_221014, 0874_SW210_221014, 0874_SW108_221014,	0874_SW116_221014, 0874_SW110_221014, 0874_SW111_221014, 0874_QC109_221014, 0874_QC308_221014	14-Oct-2022	31-Oct-2022	12-Apr-2023	✓	01-Nov-2022	12-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW123_221017, 0874_SW106_221017, 0874_QC309_221017	0874_QC112_221017, 0874_SW010_221017,	17-Oct-2022	31-Oct-2022	15-Apr-2023	✓	01-Nov-2022	15-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW202_221018, 0874_SW206_221018, 0874_SW203_221018	0874_SW205_221018, 0874_SW207_221018,	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	01-Nov-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW204_221018,	0874_QC310_221018	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	31-Oct-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW219_221019		19-Oct-2022	02-Nov-2022	17-Apr-2023	✓	03-Nov-2022	17-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW255_221019, 0874_MW013_221019, 0874_QC114_221019, 0874_MW226_221019, 0874_QC503_221019	0874_QC113_221019, 0874_SW126_221019, 0874_SW131_221019, 0874_QC311_221019,	19-Oct-2022	31-Oct-2022	17-Apr-2023	✓	31-Oct-2022	17-Apr-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW201_221014, 0874_SW208_221014, 0874_QC110_221014, 0874_SW210_221014, 0874_SW108_221014,	0874_SW116_221014, 0874_SW110_221014, 0874_SW111_221014, 0874_QC109_221014, 0874_QC308_221014	14-Oct-2022	31-Oct-2022	12-Apr-2023	✓	01-Nov-2022	12-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW123_221017, 0874_SW106_221017, 0874_QC309_221017	0874_QC112_221017, 0874_SW010_221017,	17-Oct-2022	31-Oct-2022	15-Apr-2023	✓	01-Nov-2022	15-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW202_221018, 0874_SW206_221018, 0874_SW203_221018	0874_SW205_221018, 0874_SW207_221018,	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	01-Nov-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW204_221018,	0874_QC310_221018	18-Oct-2022	31-Oct-2022	16-Apr-2023	✓	31-Oct-2022	16-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW219_221019		19-Oct-2022	02-Nov-2022	17-Apr-2023	✓	03-Nov-2022	17-Apr-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW255_221019, 0874_MW013_221019, 0874_QC114_221019, 0874_MW226_221019, 0874_QC503_221019	0874_QC113_221019, 0874_SW126_221019, 0874_SW131_221019, 0874_QC311_221019,	19-Oct-2022	31-Oct-2022	17-Apr-2023	✓	31-Oct-2022	17-Apr-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	39	10.26	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	39	5.13	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	59	1.69	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	59	5.08	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	59	5.08	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	59	1.69	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2205495

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP
Order number : 60612487_2.1
C-O-C number : 43667
Site : 0874_PFAS OMP_RAAF
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 4
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 21-Oct-2022 09:40
Client Requested Due Date : 01-Nov-2022
Issue Date : 27-Oct-2022
Scheduled Reporting Date : 01-Nov-2022

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 2
Receipt Detail : HARD ESKIES
Security Seal : Intact.
Temperature : 3.4°C, 3.9°C - Ice present
No. of samples received / analysed : 62 / 62

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Samples were originally received by ALS Townsville on 19/10/2022 at temperatures of 7.7°C and 11.0°C, and forwarded to ALS Brisbane for analysis.**
- Please be advised, 2x 20mL PFAS containers were received labelled with the sample ID “MW219” and sampling date “19/10/2022” and did not scan into ALS Compass. These containers have been added as a sample to the end of the work order and placed on hold. If you wish to add analysis to this sample, please contact client services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- All remaining analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2205495-001	14-Oct-2022 10:39	0874_SD201_221014	✓	✓
ET2205495-003	14-Oct-2022 11:47	0874_SD116_221014	✓	✓
ET2205495-005	14-Oct-2022 12:29	0874_SD208_221014	✓	✓
ET2205495-007	14-Oct-2022 13:22	0874_SD107_221014	✓	✓
ET2205495-008	14-Oct-2022 14:03	0874_SD110_221014	✓	✓
ET2205495-009	14-Oct-2022 14:04	0874_QC117_221014	✓	✓
ET2205495-012	14-Oct-2022 14:33	0874_SD111_221014	✓	✓
ET2205495-014	14-Oct-2022 15:17	0874_SD210_221014	✓	✓
ET2205495-015	14-Oct-2022 15:18	0874_QC116_221014	✓	✓
ET2205495-018	14-Oct-2022 15:42	0874_SD108_221014	✓	✓
ET2205495-021	17-Oct-2022 09:40	0874_SD102_221017	✓	✓
ET2205495-022	17-Oct-2022 10:08	0874_SD013_221017	✓	✓
ET2205495-023	17-Oct-2022 10:27	0874_SD016_221017	✓	✓
ET2205495-024	17-Oct-2022 11:13	0874_SD125_221017	✓	✓
ET2205495-025	17-Oct-2022 11:14	0874_QC111_221017	✓	✓
ET2205495-026	17-Oct-2022 11:41	0874_SD123_221017	✓	✓
ET2205495-029	17-Oct-2022 11:57	0874_SD019_221017	✓	✓
ET2205495-030	17-Oct-2022 12:23	0874_SD001_221017	✓	✓
ET2205495-031	17-Oct-2022 13:18	0874_SD106_221017	✓	✓
ET2205495-033	17-Oct-2022 14:00	0874_SD132_221017	✓	✓
ET2205495-034	17-Oct-2022 14:04	0874_SD121_221017	✓	✓
ET2205495-035	17-Oct-2022 14:46	0874_SD010_221017	✓	✓
ET2205495-038	18-Oct-2022 09:49	0874_SD202_221018	✓	✓
ET2205495-040	18-Oct-2022 10:39	0874_SD205_221018	✓	✓
ET2205495-042	18-Oct-2022 11:02	0874_SD206_221018	✓	✓
ET2205495-044	18-Oct-2022 11:21	0874_SD207_221018	✓	✓
ET2205495-046	18-Oct-2022 11:51	0874_SD203_221018	✓	✓
ET2205495-048	18-Oct-2022 12:09	0874_SD204_221018	✓	✓
ET2205495-056	19-Oct-2022 15:11	0874_SD131_221019	✓	✓
ET2205495-057	19-Oct-2022 15:12	0874_QC115_221019	✓	✓



Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2205495-002	14-Oct-2022 11:20	0874_SW201_221014	✓
ET2205495-004	14-Oct-2022 11:48	0874_SW116_221014	✓
ET2205495-006	14-Oct-2022 12:31	0874_SW208_221014	✓
ET2205495-010	14-Oct-2022 14:04	0874_SW110_221014	✓
ET2205495-011	14-Oct-2022 14:05	0874_QC110_221014	✓
ET2205495-013	14-Oct-2022 14:33	0874_SW111_221014	✓
ET2205495-016	14-Oct-2022 15:18	0874_SW210_221014	✓
ET2205495-017	14-Oct-2022 15:19	0874_QC109_221014	✓
ET2205495-019	14-Oct-2022 15:43	0874_SW108_221014	✓
ET2205495-020	14-Oct-2022 15:44	0874_QC308_221014	✓
ET2205495-027	17-Oct-2022 11:42	0874_SW123_221017	✓
ET2205495-028	17-Oct-2022 11:43	0874_QC112_221017	✓
ET2205495-032	17-Oct-2022 13:18	0874_SW106_221017	✓
ET2205495-036	17-Oct-2022 14:46	0874_SW010_221017	✓
ET2205495-037	17-Oct-2022 14:51	0874_QC309_221017	✓
ET2205495-039	18-Oct-2022 09:50	0874_SW202_221018	✓
ET2205495-041	18-Oct-2022 10:40	0874_SW205_221018	✓
ET2205495-043	18-Oct-2022 11:03	0874_SW206_221018	✓
ET2205495-045	18-Oct-2022 11:22	0874_SW207_221018	✓
ET2205495-047	18-Oct-2022 11:51	0874_SW203_221018	✓
ET2205495-049	18-Oct-2022 12:10	0874_SW204_221018	✓
ET2205495-050	18-Oct-2022 12:47	0874_QC310_221018	✓
ET2205495-051	19-Oct-2022 13:46	0874_MW255_221019	✓
ET2205495-052	19-Oct-2022 13:47	0874_QC113_221019	✓
ET2205495-053	19-Oct-2022 14:26	0874_MW013_221019	✓
ET2205495-054	19-Oct-2022 15:09	0874_SW126_221019	✓
ET2205495-055	19-Oct-2022 15:10	0874_QC114_221019	✓
ET2205495-058	19-Oct-2022 15:31	0874_SW131_221019	✓
ET2205495-059	19-Oct-2022 17:26	0874_MW226_221019	✓
ET2205495-060	19-Oct-2022 17:36	0874_QC311_221019	✓
ET2205495-061	19-Oct-2022 17:37	0874_QC503_221019	✓
ET2205495-062	19-Oct-2022 16:40	0874_MW219_221019	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

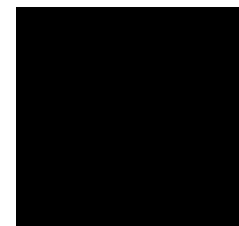
- EDI Format - ESDAT (ESDAT)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AE006/221021

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
				N22/020720				
PFBA (375-22-4)	NR70	0.05	<0.05	<0.05	<0.05	-	109	NA
PFPeA (2706-90-3)	NR70	0.02	<0.02	<0.02	<0.02	-	99	NA
PFHxA (307-24-4)	NR70	0.01	<0.01	<0.01	<0.01	-	97	NA
PFHpA (375-85-9)	NR70	0.01	<0.01	<0.01	<0.01	-	101	NA
PFOA (335-67-1)	NR70	0.01	<0.01	<0.01	<0.01	-	108	NA
PFNA (375-95-1)	NR70	0.01	<0.01	<0.01	<0.01	-	107	NA
PFDA (335-76-2)	NR70	0.01	<0.01	<0.01	<0.01	-	99	NA
PFUDA (2058-94-8)	NR70	0.01	<0.01	<0.01	<0.01	-	99	NA
PFDOA (307-55-1)	NR70	0.01	<0.01	<0.01	<0.01	-	114	NA
PFTDA (72629-94-8)	NR70	0.02	<0.02	<0.02	<0.02	-	112	NA
PFTeDA (376-06-7)	NR70	0.02	<0.02	<0.02	<0.02	-	98	NA
PFHxDA (67905-19-5)	NR70	0.02	<0.02	<0.02	<0.02	-	113	NA
PFODA (16517-11-6)	NR70	0.05	<0.05	<0.05	<0.05	-	105	NA
FOUEA (70887-84-2)	NR70	0.01	<0.01	<0.01	<0.01	-	112	NA
PFBS (375-73-5)	NR70	0.01	<0.01	0.024	0.023	4.0	100	NA
PFPeS (2706-91-4)	NR70	0.01	<0.01	<0.01	<0.01	-	103	NA
PFHxS (355-46-4)	NR70	0.01	<0.01	0.028	0.026	7.0	101	NA
PFHpS (375-92-8)	NR70	0.01	<0.01	<0.01	<0.01	-	105	NA
PFOS (1763-23-1)	NR70	0.02	<0.02	<0.02	<0.02	-	105	NA
PFNS (68259-12-1)	NR70	0.01	<0.01	<0.01	<0.01	-	105	NA
PFDS (335-77-3)	NR70	0.01	<0.01	<0.01	<0.01	-	109	NA
PFOSA (754-91-6)	NR70	0.01	<0.01	<0.01	<0.01	-	101	NA
N-MeFOSA (31506-32-8)	NR70	0.02	<0.02	<0.02	<0.02	-	102	NA
N-EtFOSA (4151-50-2)	NR70	0.02	<0.02	<0.02	<0.02	-	97	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	<0.01	<0.01	<0.01	-	101	NA
N-EtFOSAA (2991-50-6)	NR70	0.01	<0.01	<0.01	<0.01	-	108	NA
N-MeFOSE (24448-09-7)	NR70	0.05	<0.05	<0.05	<0.05	-	100	NA
N-EtFOSE (1691-99-2)	NR70	0.05	<0.05	<0.05	<0.05	-	108	NA
4:2 FTS (757124-72-4)	NR70	0.01	<0.01	<0.01	<0.01	-	109	NA
6:2 FTS (27619-97-2)	NR70	0.01	<0.01	<0.01	<0.01	-	100	NA
8:2 FTS (39108-34-4)	NR70	0.01	<0.01	<0.01	<0.01	-	103	NA
10:2 FTS (120226-60-0)	NR70	0.01	<0.01	<0.01	<0.01	-	93	NA
8:2 diPAP (678-41-1)	NR70	0.02	<0.02	<0.02	<0.02	-	142	NA

Results expressed in percentage (%) or ug/L wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:

Date:

Organics Manager, NMI-North Ryde
28/10/2022



QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/221021

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
		mg/kg	mg/kg	Sample mg/kg	Duplicate mg/kg	RPD %	LCS %	Matrix Spike %
PFBA (375-22-4)	NR70	0.002	<0.002	NA	NA	NA	92	NA
PFPeA (2706-90-3)	NR70	0.002	<0.002	NA	NA	NA	97	NA
PFHxA (307-24-4)	NR70	0.001	<0.001	NA	NA	NA	94	NA
PFHpA (375-85-9)	NR70	0.001	<0.001	NA	NA	NA	94	NA
PFOA (335-67-1)	NR70	0.001	<0.001	NA	NA	NA	96	NA
PFNA (375-95-1)	NR70	0.001	<0.001	NA	NA	NA	98	NA
PFDA (335-76-2)	NR70	0.001	<0.001	NA	NA	NA	98	NA
PFUdA (2058-94-8)	NR70	0.002	<0.002	NA	NA	NA	98	NA
PFDoA (307-55-1)	NR70	0.002	<0.002	NA	NA	NA	102	NA
PFTrDA (72629-94-8)	NR70	0.002	<0.002	NA	NA	NA	102	NA
PFTeDA (376-06-7)	NR70	0.002	<0.002	NA	NA	NA	98	NA
PFHxDA (67905-19-5)	NR70	0.002	<0.002	NA	NA	NA	95	NA
PFODA (16517-11-6)	NR70	0.005	<0.005	NA	NA	NA	84	NA
FOUEA (70887-84-2)	NR70	0.001	<0.001	NA	NA	NA	100	NA
PFBS (375-73-5)	NR70	0.001	<0.001	NA	NA	NA	91	NA
PFPeS (2706-91-4)	NR70	0.001	<0.001	NA	NA	NA	99	NA
PFHxS (355-46-4)	NR70	0.001	<0.001	NA	NA	NA	94	NA
PFHpS (375-92-8)	NR70	0.001	<0.001	NA	NA	NA	96	NA
PFOS (1763-23-1)	NR70	0.002	<0.002	NA	NA	NA	112	NA
PFNS (68259-12-1)	NR70	0.001	<0.001	NA	NA	NA	101	NA
PFDS (335-77-3)	NR70	0.001	<0.001	NA	NA	NA	98	NA
PFOSA (754-91-6)	NR70	0.001	<0.001	NA	NA	NA	94	NA
N-MeFOSA (31506-32-8)	NR70	0.002	<0.002	NA	NA	NA	97	NA
N-EtFOSA (4151-50-2)	NR70	0.002	<0.002	NA	NA	NA	95	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	<0.002	NA	NA	NA	99	NA
N-EtFOSAA(2991-50-6)	NR70	0.002	<0.002	NA	NA	NA	105	NA
N-MeFOSE (24448-09-7)	NR70	0.005	<0.005	NA	NA	NA	94	NA
N-EtFOSE (1691-99-2)	NR70	0.005	<0.005	NA	NA	NA	99	NA
4:2 FTS (757124-72-4)	NR70	0.001	<0.001	NA	NA	NA	98	NA
6:2 FTS (27619-97-2)	NR70	0.001	<0.001	NA	NA	NA	94	NA
8:2 FTS (39108-34-4)	NR70	0.001	<0.001	NA	NA	NA	95	NA
10:2 FTS (120226-60-0)	NR70	0.002	<0.002	NA	NA	NA	108	NA
8:2 diPAP (678-41-1)	NR70	0.002	<0.002	NA	NA	NA	93	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:



**Organics Manager, NMI-North Ryde
28/10/2022**

Date:



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/221021
	Quote No. : QT-02018
	Order No. : 60612487_2_1
	Date Received : 21-OCT-2022
Attention :	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager :	Phone :

Lab Reg No.	Sample Ref	Sample Description
N22/020719	0874_QC201_221007	SOIL 07/10/2022
N22/020729	0874_QC216_221014	SOIL 14/10/2022
N22/020731	0874_QC217_221014	SOIL 14/10/2022
N22/020732	0874_QC211_221017	SOIL 17/10/2022

Lab Reg No.		N22/020719	N22/020729	N22/020731	N22/020732	
Date Sampled		07-OCT-2022	14-OCT-2022	14-OCT-2022	17-OCT-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002	<0.002	<0.002	0.033	NR70
PFPeA (2706-90-3)	mg/kg	<0.002	<0.002	<0.002	0.065	NR70
PFHxA (307-24-4)	mg/kg	0.0011	<0.001	<0.001	0.36	NR70
PFHpA (375-85-9)	mg/kg	<0.001	<0.001	<0.001	0.060	NR70
PFOA (335-67-1)	mg/kg	0.0022	<0.001	<0.001	0.098	NR70
PFNA (375-95-1)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFDA (335-76-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFUdA (2058-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFDoA (307-55-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTrDA (72629-94-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFTeDA (376-06-7)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFHxDA (67905-19-5)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFODA (16517-11-6)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
FOUEA (70887-84-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
PFBS (375-73-5)	mg/kg	<0.001	<0.001	<0.001	0.16	NR70
PFPeS (2706-91-4)	mg/kg	<0.001	<0.001	<0.001	0.22	NR70
PFHxS (355-46-4)	mg/kg	0.015	<0.001	0.0021	2.0	NR70
PFHpS (375-92-8)	mg/kg	0.0011	<0.001	<0.001	0.077	NR70
PFOS (1763-23-1)	mg/kg	0.13	<0.002	0.014	2.0	NR70
PFNS (68259-12-1)	mg/kg	<0.001	<0.001	<0.001	0.0010	NR70
PFDS (335-77-3)	mg/kg	0.0013	<0.001	<0.001	<0.001	NR70
PFOSA (754-91-6)	mg/kg	<0.001	<0.001	<0.001	0.0017	NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70

REPORT OF ANALYSIS

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Report No. RN1370689

Lab Reg No.		N22/020719	N22/020729	N22/020731	N22/020732	
Date Sampled		07-OCT-2022	14-OCT-2022	14-OCT-2022	17-OCT-2022	
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
N-EtFOSE (1691-99-2)	mg/kg	<0.005	<0.005	<0.005	<0.005	NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
8:2 FTS (39108-34-4)	mg/kg	<0.001	<0.001	<0.001	<0.001	NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002	<0.002	<0.002	<0.002	NR70
PFBA (Surrogate Recovery)	%	117	116	119	114	NR70
PFPeA (Surrogate Recovery)	%	113	119	116	114	NR70
PFHxA (Surrogate Recovery)	%	112	121	129	122	NR70
PFHpA (Surrogate Recovery)	%	112	118	129	103	NR70
PFOA (Surrogate Recovery)	%	115	118	119	111	NR70
PFNA (Surrogate Recovery)	%	113	114	108	75	NR70
PFDA (Surrogate Recovery)	%	117	122	112	112	NR70
PFUdA (Surrogate Recovery)	%	114	125	97	112	NR70
PFDoA (Surrogate Recovery)	%	118	122	79	110	NR70
PFTeDA (Surrogate Recovery)	%	134	142	128	115	NR70
PFHxDA (Surrogate Recovery)	%	121	140	37	119	NR70
FOUEA (Surrogate Recovery)	%	109	85	48	109	NR70
PFBS (Surrogate Recovery)	%	107	109	137	114	NR70
PFHxS (Surrogate Recovery)	%	112	114	136	115	NR70
PFOS (Surrogate Recovery)	%	108	114	114	118	NR70
PFOSA (Surrogate Recovery)	%	116	118	65	99	NR70
N-MeFOSA (Surrogate Recovery)	%	100	109	87	66	NR70
N-EtFOSA (Surrogate Recovery)	%	100	112	85	68	NR70
N-MeFOSAA (Surrogate Recovery)	%	141	122	26	112	NR70
N-EtFOSAA (Surrogate Recovery)	%	159	134	102	117	NR70
N-MeFOSE (Surrogate Recovery)	%	97	103	94	92	NR70
N-EtFOSE (Surrogate Recovery)	%	93	100	94	93	NR70
4:2 FTS (Surrogate Recovery)	%	112	98	183	85	NR70
6:2 FTS (Surrogate Recovery)	%	113	93	126	89	NR70
8:2 FTS (Surrogate Recovery)	%	137	105	114	106	NR70
8:2 diPAP (Surrogate Recovery)	%	118	140	31	111	NR70
Dates						
Date extracted		26-OCT-2022	26-OCT-2022	26-OCT-2022	26-OCT-2022	
Date analysed		27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022	

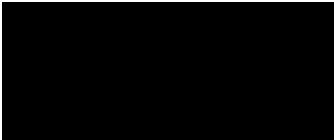
N22/020719
to
N22/020736

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

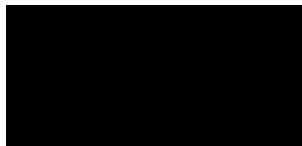
Selected PFAS surrogate recoveries are biased due to matrix effects. δ
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



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Lab Reg No.		N22/020719	N22/020729	N22/020731	N22/020732	
Date Sampled		07-OCT-2022	14-OCT-2022	14-OCT-2022	17-OCT-2022	
	Units					Method
Trace Elements						
Total Solids	%	47.4	65.7	97.2	92.5	NT2_49
Dates						
Date extracted		27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022	
Date analysed		28-OCT-2022	28-OCT-2022	28-OCT-2022	28-OCT-2022	



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Report No. RN1370689

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED]	Job No. : AECO06/221021 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 21-OCT-2022 Sampled By : CLIENT
Attention : Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

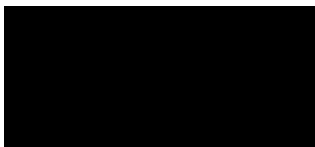
Lab Reg No.	Sample Ref	Sample Description
N22/020736	0874_QC215_221019	SOIL 19/10/2022

Lab Reg No.	Date Sampled	Units	N22/020736	19-OCT-2022	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	mg/kg	<0.002			NR70
PFPeA (2706-90-3)	mg/kg	<0.002			NR70
PFHxA (307-24-4)	mg/kg	<0.001			NR70
PFHpA (375-85-9)	mg/kg	<0.001			NR70
PFOA (335-67-1)	mg/kg	<0.001			NR70
PFNA (375-95-1)	mg/kg	<0.001			NR70
PFDA (335-76-2)	mg/kg	<0.001			NR70
PFUdA (2058-94-8)	mg/kg	<0.002			NR70
PFDoA (307-55-1)	mg/kg	<0.002			NR70
PFTrDA (72629-94-8)	mg/kg	<0.002			NR70
PFTeDA (376-06-7)	mg/kg	<0.002			NR70
PFHxDA (67905-19-5)	mg/kg	<0.002			NR70
PFODA (16517-11-6)	mg/kg	<0.005			NR70
FOUEA (70887-84-2)	mg/kg	<0.001			NR70
PFBS (375-73-5)	mg/kg	<0.001			NR70
PFPeS (2706-91-4)	mg/kg	<0.001			NR70
PFHxS (355-46-4)	mg/kg	0.0012			NR70
PFHpS (375-92-8)	mg/kg	<0.001			NR70
PFOS (1763-23-1)	mg/kg	0.012			NR70
PFNS (68259-12-1)	mg/kg	<0.001			NR70
PFDS (335-77-3)	mg/kg	<0.001			NR70
PFOSA (754-91-6)	mg/kg	<0.001			NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002			NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002			NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002			NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002			NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005			NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005			NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001			NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001			NR70

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Lab Reg No.		N22/020736				
Date Sampled		19-OCT-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	mg/kg	<0.001				NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002				NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002				NR70
PFBA (Surrogate Recovery)	%	116				NR70
PFPeA (Surrogate Recovery)	%	113				NR70
PFHxA (Surrogate Recovery)	%	119				NR70
PFHpA (Surrogate Recovery)	%	116				NR70
PFOA (Surrogate Recovery)	%	118				NR70
PFNA (Surrogate Recovery)	%	118				NR70
PFDA (Surrogate Recovery)	%	122				NR70
PFUdA (Surrogate Recovery)	%	120				NR70
PFDoA (Surrogate Recovery)	%	122				NR70
PFTeDA (Surrogate Recovery)	%	134				NR70
PFHxDA (Surrogate Recovery)	%	152				NR70
FOUEA (Surrogate Recovery)	%	75				NR70
PFBS (Surrogate Recovery)	%	110				NR70
PFHxS (Surrogate Recovery)	%	118				NR70
PFOS (Surrogate Recovery)	%	115				NR70
PFOSA (Surrogate Recovery)	%	119				NR70
N-MeFOSA (Surrogate Recovery)	%	116				NR70
N-EtFOSA (Surrogate Recovery)	%	116				NR70
N-MeFOSAA (Surrogate Recovery)	%	100				NR70
N-EtFOSAA (Surrogate Recovery)	%	100				NR70
N-MeFOSE (Surrogate Recovery)	%	102				NR70
N-EtFOSE (Surrogate Recovery)	%	108				NR70
4:2 FTS (Surrogate Recovery)	%	107				NR70
6:2 FTS (Surrogate Recovery)	%	92				NR70
8:2 FTS (Surrogate Recovery)	%	94				NR70
8:2 diPAP (Surrogate Recovery)	%	122				NR70
Dates						
Date extracted		26-OCT-2022				
Date analysed		27-OCT-2022				



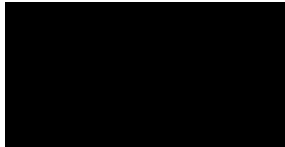
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Lab Reg No.		N22/020736				
Date Sampled		19-OCT-2022				
	Units					Method
Trace Elements						
Total Solids	%	70.8				NT2_49
Dates						
Date extracted		27-OCT-2022				
Date analysed		28-OCT-2022				



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All results are expressed on a dry weight basis.

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Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/221021 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 21-OCT-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/020720	0874_QC200_221008	WATER 08/10/2022
N22/020721	0874_QC202_221008	WATER 08/10/2022
N22/020722	0874_QC203_221008	WATER 08/10/2022
N22/020723	0874_QC204_221010	WATER 10/10/2022

Lab Reg No.	Date Sampled	Units	N22/020720	N22/020721	N22/020722	N22/020723	Method
			08-OCT-2022	08-OCT-2022	08-OCT-2022	10-OCT-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L	<0.05	<0.05	<0.05	<0.05	4.8	NR70
PFPeA (2706-90-3)	ug/L	<0.02	<0.02	<0.02	<0.02	7.5	NR70
PFHxA (307-24-4)	ug/L	<0.01	<0.01	<0.01	<0.01	38	NR70
PFHpA (375-85-9)	ug/L	<0.01	<0.01	<0.01	<0.01	4.5	NR70
PFOA (335-67-1)	ug/L	<0.01	<0.01	<0.01	<0.01	11	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	0.074	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	0.015	NR70
PFPeS (2706-91-4)	ug/L	<0.01	<0.01	<0.01	<0.01	17	NR70
PFHxS (355-46-4)	ug/L	0.028	0.016	<0.01	<0.01	230	NR70
PFHpS (375-92-8)	ug/L	<0.01	<0.01	<0.01	<0.01	13	NR70
PFOS (1763-23-1)	ug/L	<0.02	0.068	<0.02	<0.02	190	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	0.13	NR70
PFBS (375-73-5)	ug/L	0.024	<0.01	<0.01	<0.01	15	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	0.011	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.			N22/020720	N22/020721	N22/020722	N22/020723	
Date Sampled			08-OCT-2022	08-OCT-2022	08-OCT-2022	10-OCT-2022	
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	0.021	<0.01	<0.01	0.33	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	0.011	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	129	131	145	143		NR70
PFPeA (Surrogate Recovery)	%	163	135	156	143		NR70
PFHxA (Surrogate Recovery)	%	120	128	137	134		NR70
PFHpA (Surrogate Recovery)	%	126	126	142	142		NR70
PFOA (Surrogate Recovery)	%	128	137	144	140		NR70
PFNA (Surrogate Recovery)	%	112	120	132	35		NR70
PFDA (Surrogate Recovery)	%	128	145	143	150		NR70
PFUdA (Surrogate Recovery)	%	129	128	164	152		NR70
PFDoA (Surrogate Recovery)	%	120	124	139	138		NR70
PFTeDA (Surrogate Recovery)	%	115	129	134	146		NR70
PFHxDA (Surrogate Recovery)	%	129	136	157	282		NR70
FOUEA (Surrogate Recovery)	%	103	160	116	212		NR70
PFBS (Surrogate Recovery)	%	121	123	135	141		NR70
PFHxS (Surrogate Recovery)	%	128	127	143	129		NR70
PFOS (Surrogate Recovery)	%	121	138	145	133		NR70
PFOSA (Surrogate Recovery)	%	101	82	132	125		NR70
N-MeFOSA (Surrogate Recovery)	%	103	59	119	221		NR70
N-EtFOSA (Surrogate Recovery)	%	99	97	116	220		NR70
N-MeFOSAA (Surrogate Recovery)	%	177	114	174	205		NR70
N-EtFOSAA (Surrogate Recovery)	%	207	175	233	242		NR70
N-MeFOSE (Surrogate Recovery)	%	119	79	130	255		NR70
N-EtFOSE (Surrogate Recovery)	%	100	105	118	223		NR70
4:2 FTS (Surrogate Recovery)	%	233	261	157	187		NR70
6:2 FTS (Surrogate Recovery)	%	135	171	128	190		NR70
8:2 FTS (Surrogate Recovery)	%	206	542	135	194		NR70
8:2 diPAP (Surrogate Recovery)	%	82	92	94	84		NR70
Dates							
Date extracted		26-OCT-2022	26-OCT-2022	26-OCT-2022	26-OCT-2022		
Date analysed		27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022		

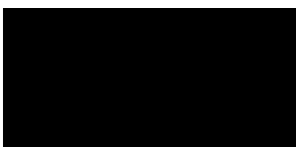
N22/020720
to
N22/020735

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.^δ
High PFAS surrogate recoveries accepted - results corrected for recovery.
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



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Report No. RN1370689

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED]	Job No. : AECO06/221021 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 21-OCT-2022 Sampled By : CLIENT
Attention : Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N22/020724	0874_QC205_221011	WATER 11/10/2022
N22/020725	0874_QC206_221011	WATER 11/10/2022
N22/020726	0874_QC207_221012	WATER 12/10/2022
N22/020727	0874_QC208_221013	WATER 13/10/2022

Lab Reg No.	Date Sampled	Units	N22/020724	N22/020725	N22/020726	N22/020727	Method
			11-OCT-2022	11-OCT-2022	12-OCT-2022	13-OCT-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		0.065	4.2	0.081	0.47	NR70
PFPeA (2706-90-3)	ug/L		0.046	6.2	0.092	0.58	NR70
PFHxA (307-24-4)	ug/L		0.13	36	0.100	2.3	NR70
PFHpA (375-85-9)	ug/L		<0.01	3.7	0.034	0.32	NR70
PFOA (335-67-1)	ug/L		0.012	7.5	0.029	0.72	NR70
PFNA (375-95-1)	ug/L		<0.01	0.033	0.046	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		0.031	16	0.12	0.87	NR70
PFHxS (355-46-4)	ug/L		0.54	180	0.62	8.5	NR70
PFHpS (375-92-8)	ug/L		0.016	8.1	0.026	0.58	NR70
PFOS (1763-23-1)	ug/L		1.6	110	0.78	11	NR70
PFNS (68259-12-1)	ug/L		<0.01	0.058	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L		0.024	14	0.15	1.0	NR70
PFOSA (754-91-6)	ug/L		<0.01	0.043	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.			N22/020724	N22/020725	N22/020726	N22/020727	
Date Sampled			11-OCT-2022	11-OCT-2022	12-OCT-2022	13-OCT-2022	
		Units					Method
PFAS (per-and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	0.012	0.13	0.062	0.014		NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	142	141	137	140		NR70
PFPeA (Surrogate Recovery)	%	155	148	141	159		NR70
PFHxA (Surrogate Recovery)	%	135	138	143	140		NR70
PFHpA (Surrogate Recovery)	%	134	144	139	139		NR70
PFOA (Surrogate Recovery)	%	140	143	141	143		NR70
PFNA (Surrogate Recovery)	%	122	46	121	98		NR70
PFDA (Surrogate Recovery)	%	144	141	139	142		NR70
PFUdA (Surrogate Recovery)	%	144	147	127	141		NR70
PFDoA (Surrogate Recovery)	%	135	136	113	119		NR70
PFTeDA (Surrogate Recovery)	%	134	128	126	121		NR70
PFHxDA (Surrogate Recovery)	%	155	231	148	150		NR70
FOUEA (Surrogate Recovery)	%	128	194	106	114		NR70
PFBS (Surrogate Recovery)	%	133	141	130	147		NR70
PFHxS (Surrogate Recovery)	%	132	138	132	137		NR70
PFOS (Surrogate Recovery)	%	140	138	136	140		NR70
PFOSA (Surrogate Recovery)	%	107	120	117	117		NR70
N-MeFOSA (Surrogate Recovery)	%	90	185	97	108		NR70
N-EtFOSA (Surrogate Recovery)	%	100	184	98	106		NR70
N-MeFOSAA (Surrogate Recovery)	%	164	203	113	144		NR70
N-EtFOSAA (Surrogate Recovery)	%	217	242	114	157		NR70
N-MeFOSE (Surrogate Recovery)	%	110	219	116	122		NR70
N-EtFOSE (Surrogate Recovery)	%	103	195	109	111		NR70
4:2 FTS (Surrogate Recovery)	%	181	118	113	129		NR70
6:2 FTS (Surrogate Recovery)	%	145	145	115	121		NR70
8:2 FTS (Surrogate Recovery)	%	265	227	109	135		NR70
8:2 diPAP (Surrogate Recovery)	%	116	75	102	94		NR70
Dates							
Date extracted		26-OCT-2022	26-OCT-2022	26-OCT-2022	26-OCT-2022		
Date analysed		27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022		

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Lab Reg No.			N22/020724	N22/020725	N22/020726	N22/020727	
Date Sampled			11-OCT-2022	11-OCT-2022	12-OCT-2022	13-OCT-2022	
		Units					Method



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REPORT OF ANALYSIS

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Report No. RN1370689

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED] Attention : Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Job No. : AECO06/221021 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 21-OCT-2022 Sampled By : CLIENT Phone : [REDACTED]
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Lab Reg No.	Sample Ref	Sample Description
N22/020728	0874_QC209_221014	WATER 14/10/2022
N22/020730	0874_QC210_221014	WATER 14/10/2022
N22/020733	0874_QC212_221017	WATER 17/10/2022
N22/020734	0874_QC213_221019	WATER 19/10/2022

Lab Reg No.	Date Sampled	Units	N22/020728	N22/020730	N22/020733	N22/020734	Method
			14-OCT-2022	14-OCT-2022	17-OCT-2022	19-OCT-2022	
PFAS (per-and poly-fluoroalkyl substances)							
PFBA (375-22-4)	ug/L		<0.05	0.14	0.18	<0.05	NR70
PFPeA (2706-90-3)	ug/L		<0.02	0.16	0.28	<0.02	NR70
PFHxA (307-24-4)	ug/L		<0.01	0.68	0.97	<0.01	NR70
PFHpA (375-85-9)	ug/L		<0.01	0.065	0.12	<0.01	NR70
PFOA (335-67-1)	ug/L		<0.01	0.12	0.21	<0.01	NR70
PFNA (375-95-1)	ug/L		<0.01	<0.01	0.013	<0.01	NR70
PFDA (335-76-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L		<0.01	0.26	0.46	<0.01	NR70
PFHxS (355-46-4)	ug/L		<0.01	2.3	3.0	<0.01	NR70
PFHpS (375-92-8)	ug/L		<0.01	0.090	0.20	<0.01	NR70
PFOS (1763-23-1)	ug/L		<0.02	2.5	6.7	<0.02	NR70
PFNS (68259-12-1)	ug/L		<0.01	<0.01	0.014	<0.01	NR70
PFBS (375-73-5)	ug/L		<0.01	0.27	0.52	<0.01	NR70
PFOSA (754-91-6)	ug/L		<0.01	<0.01	0.011	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L		<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L		<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L		<0.05	<0.05	<0.05	<0.05	NR70

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Lab Reg No.			N22/020728	N22/020730	N22/020733	N22/020734	
Date Sampled			14-OCT-2022	14-OCT-2022	17-OCT-2022	19-OCT-2022	
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	NR70
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	0.058	<0.01	<0.01	NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	0.021	<0.01	<0.01	NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	NR70
PFBA (Surrogate Recovery)	%	132	138	133	122	122	NR70
PFPeA (Surrogate Recovery)	%	141	179	142	133	133	NR70
PFHxA (Surrogate Recovery)	%	128	125	117	120	120	NR70
PFHpA (Surrogate Recovery)	%	128	137	128	126	126	NR70
PFOA (Surrogate Recovery)	%	127	138	134	124	124	NR70
PFNA (Surrogate Recovery)	%	118	126	107	122	122	NR70
PFDA (Surrogate Recovery)	%	123	139	133	128	128	NR70
PFUdA (Surrogate Recovery)	%	112	128	123	122	122	NR70
PFDoA (Surrogate Recovery)	%	104	102	101	111	111	NR70
PFTeDA (Surrogate Recovery)	%	106	89	91	119	119	NR70
PFHxDA (Surrogate Recovery)	%	128	100	103	134	134	NR70
FOUEA (Surrogate Recovery)	%	87	115	111	91	91	NR70
PFBS (Surrogate Recovery)	%	118	137	124	112	112	NR70
PFHxS (Surrogate Recovery)	%	124	128	134	121	121	NR70
PFOS (Surrogate Recovery)	%	124	142	144	121	121	NR70
PFOSA (Surrogate Recovery)	%	110	121	114	118	118	NR70
N-MeFOSA (Surrogate Recovery)	%	98	103	89	102	102	NR70
N-EtFOSA (Surrogate Recovery)	%	94	94	85	103	103	NR70
N-MeFOSAA (Surrogate Recovery)	%	101	118	102	121	121	NR70
N-EtFOSAA (Surrogate Recovery)	%	104	103	93	120	120	NR70
N-MeFOSE (Surrogate Recovery)	%	106	103	98	113	113	NR70
N-EtFOSE (Surrogate Recovery)	%	101	88	86	104	104	NR70
4:2 FTS (Surrogate Recovery)	%	106	288	240	116	116	NR70
6:2 FTS (Surrogate Recovery)	%	105	166	161	94	94	NR70
8:2 FTS (Surrogate Recovery)	%	101	126	116	102	102	NR70
8:2 diPAP (Surrogate Recovery)	%	73	63	66	101	101	NR70
Dates							
Date extracted		26-OCT-2022	26-OCT-2022	26-OCT-2022	26-OCT-2022	26-OCT-2022	
Date analysed		27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022	27-OCT-2022	

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Lab Reg No.		Units	N22/020728	N22/020730	N22/020733	N22/020734	
Date Sampled			14-OCT-2022	14-OCT-2022	17-OCT-2022	19-OCT-2022	
							Method



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Report No. RN1370689

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED]	Job No. : AECO06/221021 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 21-OCT-2022 Sampled By : CLIENT
Attention : Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

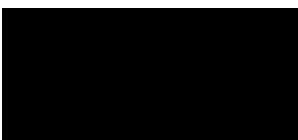
Lab Reg No.	Sample Ref	Sample Description
N22/020735	0874_QC214_221019	WATER 19/10/2022

Lab Reg No.	Date Sampled	Units	N22/020735	19-OCT-2022	Method
PFAS (per-and poly-fluoroalkyl substances)					
PFBA (375-22-4)	ug/L	0.11			NR70
PFPeA (2706-90-3)	ug/L	0.12			NR70
PFHxA (307-24-4)	ug/L	0.45			NR70
PFHpA (375-85-9)	ug/L	0.043			NR70
PFOA (335-67-1)	ug/L	0.094			NR70
PFNA (375-95-1)	ug/L	<0.01			NR70
PFDA (335-76-2)	ug/L	<0.01			NR70
PFUdA (2058-94-8)	ug/L	<0.01			NR70
PFDoA (307-55-1)	ug/L	<0.01			NR70
PFTrDA (72629-94-8)	ug/L	<0.02			NR70
PFTeDA (376-06-7)	ug/L	<0.02			NR70
PFHxDA (67905-19-5)	ug/L	<0.02			NR70
PFODA (16517-11-6)	ug/L	<0.05			NR70
FOUEA (70887-84-2)	ug/L	<0.01			NR70
PFDS (335-77-3)	ug/L	<0.01			NR70
PFPeS (2706-91-4)	ug/L	0.19			NR70
PFHxS (355-46-4)	ug/L	1.4			NR70
PFHpS (375-92-8)	ug/L	0.067			NR70
PFOS (1763-23-1)	ug/L	2.1			NR70
PFNS (68259-12-1)	ug/L	<0.01			NR70
PFBS (375-73-5)	ug/L	0.22			NR70
PFOSA (754-91-6)	ug/L	<0.01			NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02			NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02			NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01			NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01			NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05			NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05			NR70
4:2 FTS (757124-72-4)	ug/L	<0.01			NR70
6:2 FTS (27619-97-2)	ug/L	<0.01			NR70

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Lab Reg No.			N22/020735			
Date Sampled			19-OCT-2022			
		Units				Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	ug/L	<0.01				NR70
10:2 FTS (120226-60-0)	ug/L	<0.01				NR70
8:2 diPAP (678-41-1)	ug/L	<0.02				NR70
PFBA (Surrogate Recovery)	%	136				NR70
PFPeA (Surrogate Recovery)	%	157				NR70
PFHxA (Surrogate Recovery)	%	130				NR70
PFHpA (Surrogate Recovery)	%	134				NR70
PFOA (Surrogate Recovery)	%	137				NR70
PFNA (Surrogate Recovery)	%	121				NR70
PFDA (Surrogate Recovery)	%	141				NR70
PFUdA (Surrogate Recovery)	%	131				NR70
PFDoA (Surrogate Recovery)	%	113				NR70
PFTeDA (Surrogate Recovery)	%	108				NR70
PFHxDA (Surrogate Recovery)	%	122				NR70
FOUEA (Surrogate Recovery)	%	100				NR70
PFBS (Surrogate Recovery)	%	131				NR70
PFHxS (Surrogate Recovery)	%	142				NR70
PFOS (Surrogate Recovery)	%	141				NR70
PFOSA (Surrogate Recovery)	%	115				NR70
N-MeFOSA (Surrogate Recovery)	%	95				NR70
N-EtFOSA (Surrogate Recovery)	%	91				NR70
N-MeFOSAA (Surrogate Recovery)	%	117				NR70
N-EtFOSAA (Surrogate Recovery)	%	104				NR70
N-MeFOSE (Surrogate Recovery)	%	102				NR70
N-EtFOSE (Surrogate Recovery)	%	93				NR70
4:2 FTS (Surrogate Recovery)	%	140				NR70
6:2 FTS (Surrogate Recovery)	%	112				NR70
8:2 FTS (Surrogate Recovery)	%	119				NR70
8:2 diPAP (Surrogate Recovery)	%	99				NR70
Dates						
Date extracted		26-OCT-2022				
Date analysed		27-OCT-2022				



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WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1370490*
RN1370491

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/221021

Total No. of Samples: 18

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/020719	28-OCT-2022	0874_QC201_221007	SOIL 07/10/2022
N22/020720	28-OCT-2022	0874_QC200_221008	WATER 08/10/2022
N22/020721	28-OCT-2022	0874_QC202_221008	WATER 08/10/2022
N22/020722	28-OCT-2022	0874_QC203_221008	WATER 08/10/2022
N22/020723	28-OCT-2022	0874_QC204_221010	WATER 10/10/2022
N22/020724	28-OCT-2022	0874_QC205_221011	WATER 11/10/2022
N22/020725	28-OCT-2022	0874_QC206_221011	WATER 11/10/2022
N22/020726	28-OCT-2022	0874_QC207_221012	WATER 12/10/2022
N22/020727	28-OCT-2022	0874_QC208_221013	WATER 13/10/2022
N22/020728	28-OCT-2022	0874_QC209_221014	WATER 14/10/2022
N22/020729	28-OCT-2022	0874_QC216_221014	SOIL 14/10/2022

N22/020730	28-OCT-2022	0874_QC210_221014	WATER 14/10/2022
N22/020731	28-OCT-2022	0874_QC217_221014	SOIL 14/10/2022
N22/020732	28-OCT-2022	0874_QC211_221017	SOIL 17/10/2022
N22/020733	28-OCT-2022	0874_QC212_221017	WATER 17/10/2022
N22/020734	28-OCT-2022	0874_QC213_221019	WATER 19/10/2022
N22/020735	28-OCT-2022	0874_QC214_221019	WATER 19/10/2022
N22/020736	28-OCT-2022	0874_QC215_221019	SOIL 19/10/2022

SAMPLE RECEIVED CONDITION

Date samples received:	21-OCT-2022
Sample received in good order:	Yes
NMI Quotation no. provided:	RAAF TSV
Client purchase order number:	60612487_2_1
Temperature of samples:	Chilled
Comments:	
Mode of Delivery:	Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at

<https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>

CERTIFICATE OF ANALYSIS

Work Order : EB2237659 Amendment : 1 Client : AECOM AUSTRALIA PTY LTD Contact : [REDACTED] Address : [REDACTED] Telephone : ---- Project : QLD_0874_PFASOMP Order number : 60612487 C-O-C number : ---- Sampler : [REDACTED] Site : RAAF TSV Quote number : EN/004/21 No. of samples received : 7 No. of samples analysed : 7	Page : 1 of 7 Laboratory : Environmental Division Brisbane Contact : [REDACTED] Address : [REDACTED] Telephone : [REDACTED] Date Samples Received : 15-Dec-2022 13:40 Date Analysis Commenced : 16-Dec-2022 Issue Date : 19-Jan-2023 09:23
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Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: Sample '0874_SD014_221212' shows poor matrix spike recovery due to matrix interference. Confirmed by re-extraction and re-analysis.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Samples '0874_SD125_221212' and '0874_QC150_221212' required dilution due to the presence of high level contaminants. Surrogate recoveries not determined and LOR values have been adjusted accordingly.
- Amendment (19/01/2023): This report has been amended following the amendment of the report recipients and Project name.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD014_221212	0874_SD120_221212	0874_SD125_221212	0874_QC150_221212	----
Sampling date / time				12-Dec-2022 09:51	12-Dec-2022 10:02	12-Dec-2022 10:33	12-Dec-2022 10:33	----	----
Compound	CAS Number	LOR	Unit	EB2237659-001	EB2237659-002	EB2237659-003	EB2237659-004	-----	----
				Result	Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	51.4	40.5	47.8	34.3	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0098	0.0056	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0093	0.0052	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0002	0.0006	0.0931	0.0548	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0122	0.0071	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0030	0.0026	2.31	1.45	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0505	0.0552	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.013	<0.012	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0034	0.0026	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0240	0.0153	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0029	<0.0024	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.0003	0.0044	<0.0024	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0026	<0.0024	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0026	<0.0024	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0026	<0.0024	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0005	0.0002	<0.0026	<0.0024	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0002	<0.0002	<0.0026	<0.0024	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0064	<0.0061	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0127	0.0119	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0064	<0.0061	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD014_221212	0874_SD120_221212	0874_SD125_221212	0874_QC150_221212	----
Sampling date / time				12-Dec-2022 09:51	12-Dec-2022 10:02	12-Dec-2022 10:33	12-Dec-2022 10:33	----	----
Compound	CAS Number	LOR	Unit	EB2237659-001	EB2237659-002	EB2237659-003	EB2237659-004	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0064	<0.0061	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0064	<0.0061	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0064	<0.0061	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0026	<0.0024	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0026	<0.0024	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0026	<0.0024	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0026	<0.0024	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0026	<0.0024	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0026	<0.0024	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0039	0.0037	2.53	1.61	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0032	0.0032	2.40	1.50	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0032	0.0035	2.45	1.53	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	99.5	103	Not Determined	Not Determined	----	----
13C8-PFOA	----	0.0002	%	94.0	99.5	Not Determined	Not Determined	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC151_221212	0874_MW218_221212	0874_QC550_221212	----	----
Sampling date / time				13-Dec-2022 09:40	13-Dec-2022 09:00	13-Dec-2022 09:40	----	----	
Compound	CAS Number	LOR	Unit	EB2237659-005	EB2237659-006	EB2237659-007	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.25	0.24	<0.02	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	0.24	<0.02	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	8.83	8.38	<0.01	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.29	0.30	<0.02	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.30	2.19	<0.01	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.15	<0.02	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.60	1.67	<0.02	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	0.10	<0.02	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.11	<0.01	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC151_221212	0874_MW218_221212	0874_QC550_221212	----	----
Sampling date / time				13-Dec-2022 09:40	13-Dec-2022 09:00	13-Dec-2022 09:40	----	----	
Compound	CAS Number	LOR	Unit	EB2237659-005	EB2237659-006	EB2237659-007	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	13.8	13.4	<0.01	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.1	10.6	<0.01	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	13.3	12.8	<0.01	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.0	98.0	108	----	----	
13C8-PFOA	----	0.02	%	103	105	104	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2237659
Amendment : 1

Page : 1 of 7

Client : AECOM AUSTRALIA PTY LTD
Contact :
Address :
Telephone :
Project : QLD_0874_PFASOMP
Order number : 60612487
C-O-C number :
Sampler :
Site : RAAF TSV
Quote number : EN/004/21
No. of samples received : 7
No. of samples analysed : 7

Laboratory : Environmental Division Brisbane
Contact :
Address :
Telephone :
Date Samples Received : 15-Dec-2022
Date Analysis Commenced : 16-Dec-2022
Issue Date : 19-Jan-2023



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Table with 3 columns: Signatories, Position, Accreditation Category. Includes Senior Chemist - Organics and Senior Inorganic Chemist.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4773822)									
EB2237642-001	Anonymous	EA055: Moisture Content	----	0.1	%	6.3	6.2	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4773821)									
EB2237642-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4773821)									
EB2237642-001	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4773821)							
EB2237642-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4773821) - continued									
EB2237642-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4773821)									
EB2237642-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4773821)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	103	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	97.9	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	105	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	100	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	101	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	97.9	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4773821)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	94.3	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.4	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	88.8	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	99.6	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	96.0	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	97.1	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4773821)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	124	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	100	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	109	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.1	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.8	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	90.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4773821)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	108	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	90.0	65.0	137



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4773821) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	86.7	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4780658)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	93.1	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	88.0	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	93.1	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	92.7	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.8	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4780658)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.8	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	86.2	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	101	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	94.0	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	89.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	89.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	85.0	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	92.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	87.2	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.2	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	97.2	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4780658)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	85.2	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	88.3	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	92.8	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	95.5	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	98.4	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	75.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4780658)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	99.4	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	90.8	64.0	140



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4780658) - continued								
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	97.3	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	97.9	64.2	133
EP231P: PFAS Sums (QCLot: 4780658)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4773821)							
EB2237659-001	0874_SD014_221212	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	108	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	89.7	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	99.2	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	107	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	86.8	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	66.2	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4773821)							
EB2237659-001	0874_SD014_221212	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	81.0	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	81.6	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	106	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	109	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	106	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	90.0	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	88.8	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	103	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	104	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	108	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	96.2	69.0	133
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4773821)					
EB2237659-001	0874_SD014_221212	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	103	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	124	70.0	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4773821) - continued							
EB2237659-001	0874_SD014_221212	EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	92.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	97.6	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	106	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4773821)							
EB2237659-001	0874_SD014_221212	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	104	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	114	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	101	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	# 48.8	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order : **EB2237659**

Page : 1 of 5

Amendment : **1**

Client : **AECOM AUSTRALIA PTY LTD**

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP**

Date Samples Received : 15-Dec-2022

Site : **RAAF TSV**

Issue Date : 19-Jan-2023

Sampler : [REDACTED]

No. of samples received : 7

Order number : 60612487

No. of samples analysed : 7

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EB2237659--001	0874_SD014_221212	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	48.8 %	70.0-130%	Recovery less than lower data quality objective

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	8	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	0	8	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	----	----	----	16-Dec-2022	26-Dec-2022	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	19-Dec-2022	10-Jun-2023	✓	21-Dec-2022	28-Jan-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	19-Dec-2022	10-Jun-2023	✓	21-Dec-2022	28-Jan-2023	✓



Matrix: **SOIL** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	19-Dec-2022	10-Jun-2023	✓	21-Dec-2022	28-Jan-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	19-Dec-2022	10-Jun-2023	✓	21-Dec-2022	28-Jan-2023	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD014_221212, 0874_SD125_221212,	0874_SD120_221212, 0874_QC150_221212	12-Dec-2022	19-Dec-2022	10-Jun-2023	✓	21-Dec-2022	28-Jan-2023	✓

Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC151_221212, 0874_QC550_221212	0874_MW218_221212,	13-Dec-2022	21-Dec-2022	11-Jun-2023	✓	23-Dec-2022	11-Jun-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_QC151_221212, 0874_QC550_221212	0874_MW218_221212,	13-Dec-2022	21-Dec-2022	11-Jun-2023	✓	23-Dec-2022	11-Jun-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_QC151_221212, 0874_QC550_221212	0874_MW218_221212,	13-Dec-2022	21-Dec-2022	11-Jun-2023	✓	23-Dec-2022	11-Jun-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_QC151_221212, 0874_QC550_221212	0874_MW218_221212,	13-Dec-2022	21-Dec-2022	11-Jun-2023	✓	23-Dec-2022	11-Jun-2023	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_QC151_221212, 0874_QC550_221212	0874_MW218_221212,	13-Dec-2022	21-Dec-2022	11-Jun-2023	✓	23-Dec-2022	11-Jun-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	8	0.00	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	0	8	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION

CUSTOMER DETAILS

Attention: [REDACTED]
Customer: AECOM AUSTRALIA PTY LTD
Address: [REDACTED]
Email: [REDACTED]
Telephone:
Fax:

LABORATORY DETAILS

Lab: National Measurement Institute
Contact: [REDACTED]
Address: [REDACTED]
Email: [REDACTED]
Telephone: [REDACTED]
Fax:

SAMPLE DETAILS

NMI Job Name: AECO06/221213

Total No. of Samples: 4

LRNs	Estimated Report Date	Customer Sample ID	Lab Sample Description
N22/025282	20-DEC-2022	0874_QC250_221212	SOIL 12/12/33 10:33
N22/025283	20-DEC-2022	0874_QC251_221213	WATER 13/12/22 0940
N22/025284	20-DEC-2022	0874_QC551_221213	WATER 13/12/33 0940
N22/025285	20-DEC-2022	0874_QC350_221212	WATER 12/12/33 1140

SAMPLE RECEIVED CONDITION

Date samples received: 13-DEC-2022

Sample received in good order: Yes

NMI Quotation no. provided:

Client purchase order number: 60612487

Temperature of samples: Chilled

Comments: Corrected sample ID as per your Email

Mode of Delivery: Courier

Additional Terms and Conditions

Incomplete / unclear information about samples or required testing will delay the start of the analysis work

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission and before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

The lodgement of an order or receipt of samples for NMI services referenced in this Sample Receipt Notification constitutes an acceptance of the current version of NMI Terms and Conditions or other applicable Terms referenced in the NMI Quotation. NMI Terms and Conditions are available on the web at <https://www.industry.gov.au/client-services/testing-and-analysis-services/chemical-and-biological-analysis-services-terms-and-conditions>



REPORT OF ANALYSIS

Client : AECOM AUSTRALIA PTY LTD	Job No. : AECO06/221213
	Quote No. : QT-02018
	Order No. : 60612487_2_1
	Date Received : 13-DEC-2022
Attention : [REDACTED]	Sampled By : CLIENT
Project Name : QLD_0874_PFASOMP	
Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N22/025282	0874_QC250_221212	SOIL 12/12/33 10:33

Lab Reg No.	Units	N22/025282				Method
Date Sampled		12-DEC-2022				
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	mg/kg	<0.002				NR70
PFPeA (2706-90-3)	mg/kg	0.0020				NR70
PFHxA (307-24-4)	mg/kg	0.012				NR70
PFHpA (375-85-9)	mg/kg	<0.001				NR70
PFOA (335-67-1)	mg/kg	0.0031				NR70
PFNA (375-95-1)	mg/kg	<0.001				NR70
PFDA (335-76-2)	mg/kg	<0.001				NR70
PFUdA (2058-94-8)	mg/kg	<0.002				NR70
PFDoA (307-55-1)	mg/kg	<0.002				NR70
PFTrDA (72629-94-8)	mg/kg	<0.002				NR70
PFTeDA (376-06-7)	mg/kg	<0.002				NR70
PFHxDA (67905-19-5)	mg/kg	<0.002				NR70
PFODA (16517-11-6)	mg/kg	<0.005				NR70
FOUEA (70887-84-2)	mg/kg	<0.001				NR70
PFBS (375-73-5)	mg/kg	0.0068				NR70
PFPeS (2706-91-4)	mg/kg	0.0067				NR70
PFHxS (355-46-4)	mg/kg	0.063				NR70
PFHpS (375-92-8)	mg/kg	0.0070				NR70
PFOS (1763-23-1)	mg/kg	1.4				NR70
PFNS (68259-12-1)	mg/kg	0.015				NR70
PFDS (335-77-3)	mg/kg	0.016				NR70
PFOSA (754-91-6)	mg/kg	0.0078				NR70
N-MeFOSA (31506-32-8)	mg/kg	<0.002				NR70
N-EtFOSA (4151-50-2)	mg/kg	<0.002				NR70
N-MeFOSAA (2355-31-9)	mg/kg	<0.002				NR70
N-EtFOSAA(2991-50-6)	mg/kg	<0.002				NR70
N-MeFOSE (24448-09-7)	mg/kg	<0.005				NR70
N-EtFOSE (1691-99-2)	mg/kg	<0.005				NR70
4:2 FTS (757124-72-4)	mg/kg	<0.001				NR70
6:2 FTS (27619-97-2)	mg/kg	<0.001				NR70

REPORT OF ANALYSIS

Page: 2 of 6
Report No. RN1379140

Lab Reg No.		N22/025282				
Date Sampled		12-DEC-2022				
	Units					Method
PFAS (per-and poly-fluoroalkyl substances)						
8:2 FTS (39108-34-4)	mg/kg	<0.001				NR70
10:2 FTS (120226-60-0)	mg/kg	<0.002				NR70
8:2 diPAP (678-41-1)	mg/kg	<0.002				NR70
PFBA (Surrogate Recovery)	%	136				NR70
PFPeA (Surrogate Recovery)	%	135				NR70
PFHxA (Surrogate Recovery)	%	131				NR70
PFHpA (Surrogate Recovery)	%	131				NR70
PFOA (Surrogate Recovery)	%	137				NR70
PFNA (Surrogate Recovery)	%	100				NR70
PFDA (Surrogate Recovery)	%	137				NR70
PFUdA (Surrogate Recovery)	%	135				NR70
PFDoA (Surrogate Recovery)	%	140				NR70
PFTeDA (Surrogate Recovery)	%	149				NR70
PFHxDA (Surrogate Recovery)	%	143				NR70
FOUEA (Surrogate Recovery)	%	89				NR70
PFBS (Surrogate Recovery)	%	129				NR70
PFHxS (Surrogate Recovery)	%	131				NR70
PFOS (Surrogate Recovery)	%	114				NR70
PFOSA (Surrogate Recovery)	%	135				NR70
N-MeFOSA (Surrogate Recovery)	%	122				NR70
N-EtFOSA (Surrogate Recovery)	%	125				NR70
N-MeFOSAA (Surrogate Recovery)	%	166				NR70
N-EtFOSAA (Surrogate Recovery)	%	188				NR70
N-MeFOSE (Surrogate Recovery)	%	117				NR70
N-EtFOSE (Surrogate Recovery)	%	118				NR70
4:2 FTS (Surrogate Recovery)	%	169				NR70
6:2 FTS (Surrogate Recovery)	%	173				NR70
8:2 FTS (Surrogate Recovery)	%	201				NR70
8:2 diPAP (Surrogate Recovery)	%	123				NR70
Dates						
Date extracted		16-DEC-2022				
Date analysed		19-DEC-2022				

N22/025282

PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects.δ

REPORT OF ANALYSIS

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High PFAS surrogate recoveries accepted - results corrected for recovery.



Analyst
Organics - NSW
Accreditation No. 198

19-JAN-2023

Lab Reg No.		N22/025282				
Date Sampled		12-DEC-2022				
	Units					Method
Trace Elements						
Total Solids	%	71.3				NT2_49
Dates						
Date extracted		19-DEC-2022				
Date analysed		20-DEC-2022				



Analyst
Inorganics - NSW
Accreditation No. 198

19-JAN-2023

All results are expressed on a dry weight basis.

REPORT OF ANALYSIS

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Report No. RN1379140

Client : AECOM AUSTRALIA PTY LTD [REDACTED] [REDACTED]	Job No. : AECO06/221213 Quote No. : QT-02018 Order No. : 60612487_2_1 Date Received : 13-DEC-2022 Sampled By : CLIENT
Attention : [REDACTED] Project Name : QLD_0874_PFASOMP Your Client Services Manager : [REDACTED]	Phone : [REDACTED]

Lab Reg No.	Sample Ref	Sample Description
N22/025283	0874_QC251_221213	WATER 13/12/22 0940
N22/025284	0874_QC551_221213	WATER 13/12/33 0940
N22/025285	0874_QC350_221212	WATER 12/12/33 1140

Lab Reg No.	Date Sampled	Units	N22/025283	N22/025284	N22/025285	Method
			13-DEC-2022	13-DEC-2022	12-DEC-2022	
PFAS (per-and poly-fluoroalkyl substances)						
PFBA (375-22-4)	ug/L	0.057	<0.05	<0.05	<0.05	NR70
PFPeA (2706-90-3)	ug/L	0.12	<0.02	<0.02	<0.02	NR70
PFHxA (307-24-4)	ug/L	0.75	<0.01	<0.01	<0.01	NR70
PFHpA (375-85-9)	ug/L	0.067	<0.01	<0.01	<0.01	NR70
PFOA (335-67-1)	ug/L	0.077	<0.01	<0.01	<0.01	NR70
PFNA (375-95-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDA (335-76-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFUdA (2058-94-8)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDoA (307-55-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFTrDA (72629-94-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFTeDA (376-06-7)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFHxDA (67905-19-5)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
PFODA (16517-11-6)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
FOUEA (70887-84-2)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFDS (335-77-3)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFPeS (2706-91-4)	ug/L	0.17	<0.01	<0.01	<0.01	NR70
PFHxS (355-46-4)	ug/L	6.0	<0.01	<0.01	<0.01	NR70
PFHpS (375-92-8)	ug/L	0.22	<0.01	<0.01	<0.01	NR70
PFOS (1763-23-1)	ug/L	1.5	<0.02	<0.02	<0.02	NR70
PFNS (68259-12-1)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
PFBS (375-73-5)	ug/L	0.20	<0.01	<0.01	<0.01	NR70
PFOSA (754-91-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSA (31506-32-8)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-EtFOSA (4151-50-2)	ug/L	<0.02	<0.02	<0.02	<0.02	NR70
N-MeFOSAA (2355-31-9)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-EtFOSAA(2991-50-6)	ug/L	<0.01	<0.01	<0.01	<0.01	NR70
N-MeFOSE (24448-09-7)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70
N-EtFOSE (1691-99-2)	ug/L	<0.05	<0.05	<0.05	<0.05	NR70

REPORT OF ANALYSIS

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Lab Reg No.			N22/025283	N22/025284	N22/025285		
Date Sampled			13-DEC-2022	13-DEC-2022	12-DEC-2022		
		Units					Method
PFAS (per- and poly-fluoroalkyl substances)							
4:2 FTS (757124-72-4)	ug/L	<0.01	<0.01	<0.01	<0.01		NR70
6:2 FTS (27619-97-2)	ug/L	<0.01	<0.01	<0.01	<0.01		NR70
8:2 FTS (39108-34-4)	ug/L	<0.01	<0.01	<0.01	<0.01		NR70
10:2 FTS (120226-60-0)	ug/L	<0.01	<0.01	<0.01	<0.01		NR70
8:2 diPAP (678-41-1)	ug/L	<0.02	<0.02	<0.02	<0.02		NR70
PFBA (Surrogate Recovery)	%	98	105	100			NR70
PFPeA (Surrogate Recovery)	%	114	99	101			NR70
PFHxA (Surrogate Recovery)	%	93	104	103			NR70
PFHpA (Surrogate Recovery)	%	90	100	101			NR70
PFOA (Surrogate Recovery)	%	99	101	99			NR70
PFNA (Surrogate Recovery)	%	87	96	95			NR70
PFDA (Surrogate Recovery)	%	96	100	98			NR70
PFUdA (Surrogate Recovery)	%	97	102	99			NR70
PFDoA (Surrogate Recovery)	%	99	96	103			NR70
PFTeDA (Surrogate Recovery)	%	98	97	97			NR70
PFHxDA (Surrogate Recovery)	%	123	108	100			NR70
FOUEA (Surrogate Recovery)	%	86	78	71			NR70
PFBS (Surrogate Recovery)	%	93	93	94			NR70
PFHxS (Surrogate Recovery)	%	81	95	93			NR70
PFOS (Surrogate Recovery)	%	100	100	100			NR70
PFOSA (Surrogate Recovery)	%	82	80	73			NR70
N-MeFOSA (Surrogate Recovery)	%	50	53	54			NR70
N-EtFOSA (Surrogate Recovery)	%	48	55	52			NR70
N-MeFOSAA (Surrogate Recovery)	%	117	95	87			NR70
N-EtFOSAA (Surrogate Recovery)	%	99	98	95			NR70
N-MeFOSE (Surrogate Recovery)	%	67	62	60			NR70
N-EtFOSE (Surrogate Recovery)	%	72	64	63			NR70
4:2 FTS (Surrogate Recovery)	%	94	91	89			NR70
6:2 FTS (Surrogate Recovery)	%	85	85	82			NR70
8:2 FTS (Surrogate Recovery)	%	91	78	77			NR70
8:2 diPAP (Surrogate Recovery)	%	100	80	77			NR70
Dates							
Date extracted		16-DEC-2022	16-DEC-2022	16-DEC-2022			
Date analysed		19-DEC-2022	19-DEC-2022	19-DEC-2022			

N22/025283
to
N22/025285

REPORT OF ANALYSIS

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PFOS and PFHxS are quantified using a combined branched and linear standard, linear and branched isomers are totalled for reporting.
All results corrected for labelled surrogate recoveries.

Selected PFAS surrogate recoveries are biased due to matrix effects. δ
Surrogate recoveries low for selected analytes - PFAS LORs not raised since S/N > 10.



Analyst

Organics - NSW
Accreditation No. 198

19-JAN-2023



WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1376554*
RN1376583

Measurement Uncertainty is available upon request.

Note: Sampling date(s) have been provided by the client.

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/221213

Sample Matrix: Solid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		mg/kg	mg/kg	mg/kg	mg/kg	%	%	%
PFBA (375-22-4)	NR70	0.002	< 0.002	NA	NA	NA	91	NA
PFPeA (2706-90-3)	NR70	0.002	< 0.002	NA	NA	NA	90	NA
PFHxA (307-24-4)	NR70	0.001	< 0.001	NA	NA	NA	89	NA
PFHpA (375-85-9)	NR70	0.001	< 0.001	NA	NA	NA	90	NA
PFOA (335-67-1)	NR70	0.001	< 0.001	NA	NA	NA	92	NA
PFNA (375-95-1)	NR70	0.001	< 0.001	NA	NA	NA	87	NA
PFDA (335-76-2)	NR70	0.001	< 0.001	NA	NA	NA	88	NA
PFUdA (2058-94-8)	NR70	0.002	< 0.002	NA	NA	NA	87	NA
PFDoA (307-55-1)	NR70	0.002	< 0.002	NA	NA	NA	88	NA
PFTTrDA (72629-94-8)	NR70	0.002	< 0.002	NA	NA	NA	86	NA
PFTeDA (376-06-7)	NR70	0.002	< 0.002	NA	NA	NA	91	NA
PFHxDA (67905-19-5)	NR70	0.002	< 0.002	NA	NA	NA	86	NA
PFODA (16517-11-6)	NR70	0.005	< 0.005	NA	NA	NA	80	NA
FOUEA (70887-84-2)	NR70	0.001	< 0.001	NA	NA	NA	78	NA
PFBS (375-73-5)	NR70	0.001	< 0.001	NA	NA	NA	86	NA
PFPeS (2706-91-4)	NR70	0.001	< 0.001	NA	NA	NA	93	NA
PFHxS (355-46-4)	NR70	0.001	< 0.001	NA	NA	NA	88	NA
PFHpS (375-92-8)	NR70	0.001	< 0.001	NA	NA	NA	92	NA
PFOS (1763-23-1)	NR70	0.002	< 0.002	NA	NA	NA	99	NA
PFNS (68259-12-1)	NR70	0.001	< 0.001	NA	NA	NA	93	NA
PFDS (335-77-3)	NR70	0.001	< 0.001	NA	NA	NA	91	NA
PFOSA (754-91-6)	NR70	0.001	< 0.001	NA	NA	NA	87	NA
N-MeFOSA (31506-32-8)	NR70	0.002	< 0.002	NA	NA	NA	82	NA
N-Et FOSA (4151-50-2)	NR70	0.002	< 0.002	NA	NA	NA	82	NA
N-MeFOSAA (2355-31-9)	NR70	0.002	< 0.002	NA	NA	NA	90	NA
N-Et FOSAA(2991-50-6)	NR70	0.002	< 0.002	NA	NA	NA	92	NA
N-MeFOSE (24448-09-7)	NR70	0.005	< 0.005	NA	NA	NA	83	NA
N-Et FOSE (1691-99-2)	NR70	0.005	< 0.005	NA	NA	NA	82	NA
4:2 FTS (757124-72-4)	NR70	0.001	< 0.001	NA	NA	NA	97	NA
6:2 FTS (27619-97-2)	NR70	0.001	< 0.001	NA	NA	NA	89	NA
8:2 FTS (39108-34-4)	NR70	0.001	< 0.001	NA	NA	NA	90	NA
10:2 FTS (120226-60-0)	NR70	0.002	< 0.002	NA	NA	NA	77	NA
8:2 diPAP (678-41-1)	NR70	0.002	< 0.002	NA	NA	NA	77	NA

Results expressed in percentage (%) or mg/kg wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percent age Difference.

Signed:

Date:

Organics Manager, NMI-North Ryde
20/12/2022



Australian Government
National Measurement Institute

QUALITY ASSURANCE REPORT

Client: AECOM AUSTRALIA PTY LTD

NMI QA Report No: AECO06/221213

Sample Matrix: Liquid

Analyte	Method	LOR	Blank	Sample Duplicates			Recoveries	
				Sample	Duplicate	RPD	LCS	Matrix Spike
		ug/L	ug/L	ug/L	ug/L	%	%	%
PFBA (375-22-4)	NR70	0.05	< 0.05	NA	NA	NA	116	NA
PFPeA (2706-90-3)	NR70	0.02	< 0.02	NA	NA	NA	95	NA
PFHxA (307-24-4)	NR70	0.01	< 0.01	NA	NA	NA	102	NA
PFHpA (375-85-9)	NR70	0.01	< 0.01	NA	NA	NA	98	NA
PFOA (335-67-1)	NR70	0.01	< 0.01	NA	NA	NA	101	NA
PFNA (375-95-1)	NR70	0.01	< 0.01	NA	NA	NA	97	NA
PFDA (335-76-2)	NR70	0.01	< 0.01	NA	NA	NA	97	NA
PFUDa (2058-94-8)	NR70	0.01	< 0.01	NA	NA	NA	101	NA
PFDoA (307-55-1)	NR70	0.01	< 0.01	NA	NA	NA	104	NA
PFTrDA (72629-94-8)	NR70	0.02	< 0.02	NA	NA	NA	98	NA
PFTeDA (376-06-7)	NR70	0.02	< 0.02	NA	NA	NA	105	NA
PFHxDA (67905-19-5)	NR70	0.02	< 0.02	NA	NA	NA	99	NA
PFODA (16517-11-6)	NR70	0.05	< 0.05	NA	NA	NA	99	NA
FOUEA (70887-84-2)	NR70	0.01	< 0.01	NA	NA	NA	91	NA
PFBS (375-73-5)	NR70	0.01	< 0.01	NA	NA	NA	96	NA
PFPeS (2706-91-4)	NR70	0.01	< 0.01	NA	NA	NA	101	NA
PFHxS (355-46-4)	NR70	0.01	< 0.01	NA	NA	NA	97	NA
PFHpS (375-92-8)	NR70	0.01	< 0.01	NA	NA	NA	107	NA
PFOS (1763-23-1)	NR70	0.02	< 0.02	NA	NA	NA	99	NA
PFNS (68259-12-1)	NR70	0.01	< 0.01	NA	NA	NA	94	NA
PFDS (335-77-3)	NR70	0.01	< 0.01	NA	NA	NA	92	NA
PFOSA (754-91-6)	NR70	0.01	< 0.01	NA	NA	NA	103	NA
N-MeFOSA (31506-32-8)	NR70	0.02	< 0.02	NA	NA	NA	103	NA
N-EtFOSA (4151-50-2)	NR70	0.02	< 0.02	NA	NA	NA	103	NA
N-MeFOSAA (2355-31-9)	NR70	0.01	< 0.01	NA	NA	NA	99	NA
N-EtFOSAA(2991-50-6)	NR70	0.01	< 0.01	NA	NA	NA	101	NA
N-MeFOSE (24448-09-7)	NR70	0.05	< 0.05	NA	NA	NA	91	NA
N-EtFOSE (1691-99-2)	NR70	0.05	< 0.05	NA	NA	NA	93	NA
4:2 FTS (757124-72-4)	NR70	0.01	< 0.01	NA	NA	NA	104	NA
6:2 FTS (27619-97-2)	NR70	0.01	< 0.01	NA	NA	NA	108	NA
8:2 FTS (39108-34-4)	NR70	0.01	< 0.01	NA	NA	NA	99	NA
10:2 FTS (120226-60-0)	NR70	0.01	< 0.01	NA	NA	NA	89	NA
8:2 diPAP (678-41-1)	NR70	0.02	< 0.02	NA	NA	NA	115	NA

Results expressed in percentage (%) or ug/L wherever appropriate.

Acceptable Spike recovery is 50-150%.

Maximum acceptable RPDs on spikes and duplicates is 40%.

'NA' = Not Applicable.

RPD= Relative Percentage Difference.

Signed:

Date:

Organics Manager, NMI-North Ryde
20/12/2022

Appendix F

Calibration Certificates

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAI OMP RAAF Base		Project Number:	60612487	
Project Location:	Townsville		Client:	Defence	
PM Name:	[Redacted]		Fieldwork Staff Name:	[Redacted]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	-				
Make and Model:	Professional Plus				
Serial Number:	11C100766				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	8-Oct-22 @ 0810				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm (mV) ^{100x}	ppm (?.)
Calibration Standard Concentration:	4.00	7.00	2760	240.0	100
Calibration Reading:	3.98	6.98	2758	239.9	103.4
Calibration Temperature:	-	-	-	-	-
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	/				
Bump Test Reading:	/				
Bump Test Temperature:	/				
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[Redacted Signature]			8/10/22		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF Base	Project Number:	60612487
Project Location:	Townsville	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS	
Supplier:	-
Make and Model:	Professional Plus
Serial Number:	111100766

CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	10-01-22 @ 0720				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	Redox ppm (mv)	DO ppm (%)
Calibration Standard Concentration:	4.00	7.00	2760	240.0	100.0
Calibration Reading:	3.97	7.03	2760	243.1	106.3
Calibration Temperature:	-	-	-	-	-

ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	/		/	/	
Bump Test Reading:	/		/	/	
Bump Test Temperature:	/		/	/	

COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					

Approval and Distribution	
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.	
_____ Fieldwork Staff Signature	_____ Date 10/10/22
Distribution: Project Central File	

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF Base	Project Number:	60612487
Project Location:	Talawilla	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	-
Make and Model:	Professional Plus
Serial Number:	11C100766

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11-01-22 @ 0650				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm (mV)	ppm (%)
Calibration Standard Concentration:	4.00	7.00	2760	240.0	100
Calibration Reading:	3.96	6.96	2757	239.9	100.1
Calibration Temperature:	-	-	-	-	-

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	/				
Bump Test Reading:	/				
Bump Test Temperature:	/				

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

11/10/22
 Fieldwork Staff Signature Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF Base	Project Number:	60612487
Project Location:	Townsville	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	-
Make and Model:	Professional Auv
Serial Number:	11C100766

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13 Oct 22 2020				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm (mv)	ppm (i)
Calibration Standard Concentration:	4.00	7.00	2760	240.0	100.0
Calibration Reading:	3.96	6.98	2758	241.5	96.4
Calibration Temperature:	-	-	-	-	-

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	 		 	 	
Bump Test Reading:	 		 	 	
Bump Test Temperature:	 		 	 	

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

<div style="border-bottom: 1px solid black; width: 100%;"></div> <p>Fieldwork Staff Signature</p>	<div style="border-bottom: 1px solid black; width: 100%;"></div> <p>13/10/22 Date</p>
---	---

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	FFAS OMP RAAF Base		Project Number:	60612487	
Project Location:	TOWNSVILLE		Client:	Defence	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	-				
Make and Model:	Professional PLU				
Serial Number:	111100746				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	14 Oct 22 @ 0730				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm (mv)	ppm (%)
Calibration Standard Concentration:	4.00	7.00	2760	240	100
Calibration Reading:	3.96	7.04	2761	241.0	100.7
Calibration Temperature:	-		-	-	-
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[REDACTED]			14/10/22		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP PAAF Bay		Project Number:	60612487	
Project Location:	Taharville		Client:	Defence	
PM Name:	[Redacted]		Fieldwork Staff Name:	[Redacted]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	-				
Make and Model:	Professional Plus				
Serial Number:	11C100766				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Calibration Reading:					
Calibration Temperature:					
ONGOING CHECKS calibration					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:	18 Oct 22 @ 0750				
Parameter	Acidity		Conductivity	Redox	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm (mv)	DO ppm (%)
Calibration Standard Concentration:	4.00	7.00	2760	240	100.0
Bump Test Reading:	3.96	7.02	2756	239.1	107.6
Bump Test Temperature:	-	-	-	-	-
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input checked="" type="checkbox"/> Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.					
[Redacted Signature]			18/10/22		
Fieldwork Staff Signature			Date		
Distribution: Project Central File					

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP	Project Number:	60612487
Project Location:	RAAF TSV	Client:	DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	HIRMER
Make and Model:	YSI PRO DSS
Serial Number:	18D 102 826

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/12/22 0830				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH 7	pH 4	µS/cm	OKP	mg/L 90
Calibration Standard Concentration:	7	4	2760	229	100
Calibration Reading:	7.18	4.14	2863	254.7	9.0
Calibration Temperature:	25.5	25.3	25.4	13.9	21.3°

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual [REDACTED] has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ Fieldwork Staff Signature 13/12/22 Date

Distribution: Project Central File

Appendix G

Photolog

PHOTOGRAPHIC LOG

Site Name: RAAF Base Townsville (0874)	Site Location: MW244	Date of Photograph: 01/08/2022	Project number: 60612487
---	-------------------------	-----------------------------------	-----------------------------

Plate No.	1
-----------	---

Direction Photo Taken:
N

GPS Co-ordinates:
474354, 7872283

Description:
Dislocated and rusted gatic and cover replaced with new monument.



PHOTOGRAPHIC LOG

Site Name: RAAF Base Townsville (0874)	Site Location: MW056	Date of Photograph: 01/08/2022	Project number: 60612487
---	-------------------------	-----------------------------------	-----------------------------

Plate No.	2
-----------	---

Direction Photo Taken: SE

GPS Co-ordinates: 473872, 7871872

Existing monument rusted at base, replaced monument.



PHOTOGRAPHIC LOG

Site Name: RAAF Base Townsville (0874)	Site Location: MW222	Date of Photograph: 01/08/2022	Project number: 60612487
---	-------------------------	-----------------------------------	-----------------------------

Plate No.	3
-----------	---

Direction Photo Taken:
N

GPS Co-ordinates:
476145, 7870471

Description:
Damaged gatic bolt, replaced single bolt



PHOTOGRAPHIC LOG

Site Name: RAAF Base Townsville (0874)	Site Location: MW262	Date of Photograph: 01/08/2022	Project number: 60612487
---	-------------------------	-----------------------------------	-----------------------------

Plate No.	4
-----------	---

Direction Photo Taken: NE

GPS Co-ordinates: 472150, 7872141

Damaged/bent bolt tabs, new gatic and cover installed.



PHOTOGRAPHIC LOG

Site Name: RAAF Base Townsville (0874)	Site Location: MW253	Date of Photograph: 01/08/2022	Project number: 60612487
Plate No.	5		
Direction Photo Taken: NE			
GPS Co-ordinates: 476109, 7876195			
Description: Existing monument damaged. New gatic installed level with surrounding ground to mitigate future damage.			

Wet Season and Rainfall Event Sampling Factual Report, April and May 2023

PFAS OMP - RAAF Base Townsville

13-Oct-2023
PFAS Ongoing Monitoring Program - RAAF Base Townsville
Doc No. 60612487_RP96_20231013_2

Wet Season and Rainfall Event Sampling Factual Report, April and May 2023

PFAS OMP - RAAF Base Townsville

Client: Department of Defence

ABN: 68 706 814 312

Prepared by

AECOM Australia Pty Ltd

Wulgurukaba of Gurambilbarra and Yunbenun, Bindal, Gugu Badhun and Nywaigi Country, Lvl 5, 7 Tomlins Street, South Townsville QLD 4810, PO Box 5423, Townsville QLD 4810, Australia

T +61 7 4729 5500 www.aecom.com

ABN 20 093 846 925

13-Oct-2023

Job No.: 60612487

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

Quality Information

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 Ref 60612487_RP96_20201013_2
 Date 13-Oct-2023
 Originator [REDACTED]
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 Verifier/s [REDACTED]

Revision History

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			Name/Position	Signature
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Abbreviations

Term	Description
AECOM	AECOM Australia Pty Ltd
ALS	Australian Laboratory Services
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2018)
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)
BoM	Bureau of Meteorology
DCMM	Defence Contamination Management Manual
Defence	Department of Defence
DO	Dissolved oxygen
EC	Electrical conductivity
HEPA	Heads of Environmental Protection Agencies=
LOR	Limit of reporting
NATA	National Association of Testing Authorities
NEMP	National Environmental Management Plan
NEPM	National Environmental Protection Measure
NMI	National Measurement Institute
OMP	Ongoing Monitoring Plan
ORP	Oxidation-reduction potential
PFAS	Per- and poly-fluoroalkyl substances
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PMAP	PFAS Management Area Plan
QA/QC	Quality Assurance/Quality Control
QLD	Queensland
RAAF	Royal Australian Air Force
SAQP	Sampling and Analysis Quality Plan
SD	Sediment
SMA	Sub-Management Area
SW	Surface Water
SWL	Standing Water Level
WQM	Water Quality Meter

Units of measurement

Unit	Definition	Unit	Definition
AHD	Above height datum	mAHD	metres Australian Height Datum
°C	Degrees Celsius	mg	Milligrams
L	Litre	mm	Millimetre
µS	Microsiemens	cm	Centimetre
kg	Kilogram	mV	Millivolts
m	Metre	µg	Micrograms
mBTOC	metres below top of casing		

1.0 Introduction

1.1 General

AECOM Australia Pty Ltd (AECOM) was engaged by the Department of Defence (Defence) to implement the per- and poly-fluoroalkyl substances (PFAS) Ongoing Monitoring Plan (OMP) outlined in the PFAS Management Area Plan (PMAP) (Defence, 2020) at RAAF Base Townsville (the 'Base') located in the North Queensland Region. The Monitoring Area (which includes areas on-Base and off-Base), location of the Base and the Sub-Management Areas are shown in **Figure 1, Appendix A**.

The OMP for Townsville (Defence, 2020) includes the biannual groundwater, surface water, and sediment sampling events in April and October 2020, April and October 2021, April and October 2022, April and October 2023 and April 2024.

These biannual sampling events include:

- A gauging round completed on 29 wells to measure depth to water for generation of groundwater contours.
- Groundwater sampling of 60 monitoring wells on-Base and 47 wells off-Base.
- Sediment sampling at 15 locations on-Base with co-located surface water sampling when water is present.
- Sediment sampling at 27 locations off-Base with co-located surface water sampling when water is present.

During the delivery of the biannual sampling event for April 2023, a rainfall event-based sampling round was triggered in response to 50 mm of rainfall recorded at Townsville Aero (station 032040) by the Bureau of Meteorology (BoM) or 100 mm of cumulative rainfall over a 7-day period. This includes the collection of surface water samples at 19 locations, daily, for a period of five consecutive days, limited to one event per calendar year.

A sampling and analysis quality plan (SAQP) (AECOM, 2023) provides details of the sampling events.

This Sampling Event Factual Report has been prepared to report the results of the 2023 Wet Season Sampling Event which was completed between April and May 2023 and the rainfall event-based sampling event which was completed in April 2023. This report specifically highlights first-time detections and/or new exceedances of human health and ecological screening criteria for perfluorooctane sulfonate (PFOS) + Perfluorohexane sulfonate (PFHxS) and/or perfluorooctanoic acid (PFOA).

This report has been prepared in accordance with the *PFAS OMP Factual Report Guidance*, v0.2, May 2021 (Defence, 2021).

1.2 Objectives

The objectives of the OMP are to:

- Implement the OMP prepared as part of the PMAP (Defence, 2020); and
- Collect data that will enable Defence to maintain an up to date understanding of the distribution, concentration, and transport of PFAS at the Base.

The data will assist in the timely identification of risks and inform Defence's approach to the management of PFAS to protect human health and the environment, including updates and revisions to the PMAP.

The objective of this phase of works is to implement the 2023 Wet Season and Rainfall Event Sampling scope of works in accordance with the latest version of the SAQP (AECOM, 2023).

2.0 Scope of Work

The sampling event was completed in general accordance with the SAQP (AECOM, 2023). In summary, the scope of works for this sampling event included:

- Review of the SAQP (AECOM, 2023) prior to the monitoring event to ensure compliance with the following:
 - PFAS National Environmental Management Plan (NEMP), version 2.0 (HEPA, 2020)
 - National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013 (ASC NEPM, 2013)
 - Defence Routine Environment Water Quality Monitoring Manual (Defence, 2019b)
 - AS/NZ 5667:1998 Water quality – Sampling
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
 - Relevant State regulatory guidelines.
- Obtaining permission to work in public spaces where some groundwater sampling locations are situated.
- Gauging of the nominated 29 groundwater monitoring wells across a 24-hour period to enable groundwater contour generation (refer to **Table T1**, **Appendix B** and **Figure 4**, **Appendix A**).
- Collection of groundwater samples from the locations nominated in the SAQP for the wet season sampling event. Of the 107 locations proposed to be sampled (AECOM, 2023), 105 sample locations (59 on-Base and 46 off-Base) were sampled (refer to **Table 1** and **Figure 2**, **Appendix A**). One monitoring well on-Base and one monitoring well off-Base could not be sampled. MW013, located in Sub-Management Area 1 (SMA 1), was unable to be located due to construction works and was therefore not accessible. Additionally, the bolts securing the lid of MW258 were damaged, preventing access to this well. SWL was measured in all wells immediately prior to sampling.
- Collection of co-located surface water and sediment samples for the wet season sampling event. Of the 42 locations proposed to be sampled for the wet season sampling event (AECOM, 2023), 40 locations (14 on-Base and 26 off-Base) were sampled (refer to **Table 2** and **Table 3**, and **Figure 3**, **Appendix A**). One location on-Base and one location off-Base could not be sampled. Surface water and sediment co-locations SW/SD106 and SW/SD209 were inaccessible due to flooded roadways, therefore, samples from these locations were not collected.
- Collection of rainfall event-based surface water samples at 19 locations (nine on-Base and 10 off-Base), daily, for five consecutive days (refer to **Table 4** and **Figure 7**, **Appendix A**). All rainfall event locations were accessed and sampled for five consecutive days as per AECOM (2023).
- Analysis of all samples for the PFAS suite (28 analytes) at the standard limit of reporting (LOR).
- Collection of intra- and inter-laboratory duplicate samples at a rate of 1 in 10 primary samples to be analysed for PFAS suite, one rinsate sample per fieldwork day, and one trip blank per batch was not achieved due to oversight as outlined in the Data Validation in **Appendix C**.
- Data management of all OMP field and laboratory data in the Defence ESdat database.
- Preparation of this combined Wet Season and Rainfall Event Sampling Factual Report.

Table 1 Groundwater Sampling Locations

Area	Monitoring Well ID
On-Base	
SMA 1 – includes a Former Fire Training Area.	MW013#, MW118
SMA 2 – includes a Former Fire Training Area, Fire Station and Fuel Farm.	MW005, MW015, MW016, MW021, MW046, MW054, MW055, MW081, MW090, MW109, MW110, MW138, MW139, MW246, MW250, MW251
SMA 3 – includes 5th Aviation Regiment Precinct.	MW009, MW038, MW043, MW114, MW125, MW142, MW247, MW248
Northern section of Base, downgradient of SMA 2	MW136, MW140, MW243, MW244
North-west of Runway 07/25	MW112
East and south-east of SMA 1	MW026, MW033, MW034, MW061, MW063, MW120, MW222, MW223, MW224, MW232
South of Ingham Road – External Defence Properties (ID 0875, 1273, 1274)	MW226, MW227, MW228, MW229
Balance of Base area	MW002, MW004, MW056, MW057, MW122, MW135, MW234, MW235, MW241, MW242, MW245, MW255, MW265, MW300, MW470
Off-Base	
Townsville Town Common, north of the Base	MW201, MW202, MW203, MW204, MW205, MW206, MW207, MW208
Bohle River and Bohle Industrial Estate, west of the Base	MW231, MW237, MW238, MW239, MW240, MW254, MW262
Suburb of Pallarenda, north-east of the Base	MW233, MW252, MW253, MW301
Suburbs of Rowes Bay and Belgian Gardens, east of the Base	MW211, MW212, MW213, MW214, MW215, MW216, MW256, MW261, MW264, MW467, MW471
Suburb of Garbutt, east and south of the Base	MW217, MW218, MW219, MW220, MW221, MW225, MW236, MW257, MW258^, MW259, MW260, MW263, MW266, MW267, MW268, MW269, MW270

Location unable to be sampled due to construction activities in SMA 1

^ Location unable to be sampled due to damaged bolt/gatic lid

Table 2 Surface Water Sampling Locations

Locations	Surface Water Location ID	
On-Base	Mundy Creek Catchment	SW001, SW010, SW106^, SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW013, SW014, SW016, SW019, SW112, SW123, SW125, SW126, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW113, SW114, SW115, SW116, SW117, SW118, SW119, SW208, SW209^

Locations		Surface Water Location ID
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW021, SW110, SW111, SW120, SW127, SW129, SW201, SW202, SW203, SW204, SW205, SW206, SW207
	Three Mile Creek Catchment	SW107, SW210

^ Location unable to be sampled due to flooded roadway preventing access

Table 3 Sediment Sampling Locations

Locations		Sediment Location ID
On-Base	Mundy Creek Catchment	SD001, SD010, SD106 [^] , SD121, SD132
	Bohle River / Louisa Creek / Townsville Town Common	SD013, SD014, SD016, SD019, SD112, SD123, SD125, SD126, SD131
	Three Mile Creek Catchment	SD102
Off-Base	Mundy Creek Catchment	SD108, SD109, SD113, SD114, SD115, SD116, SD117, SD118, SD119, SD208, SD209 [^]
	Bohle River / Louisa Creek / Townsville Town Common	SD017, SD021, SD110, SD111, SD120, SD127, SD129, SD201, SD202, SD203, SD204, SD205, SD206, SD207
	Three Mile Creek Catchment	SD107, SD210

^ Location unable to be sampled due to flooded roadway preventing safe access

Table 4 Rainfall Event Surface Water Sampling Locations

Locations		Surface Water Location ID
On-Base	Mundy Creek Catchment	SW010, SW121, SW132
	Bohle River / Louisa Creek / Townsville Town Common	SW014, SW016, SW112, SW123, SW125, SW131
	Three Mile Creek Catchment	SW102
Off-Base	Mundy Creek Catchment	SW108, SW109, SW115, SW116, SW117, SW118
	Bohle River / Louisa Creek / Townsville Town Common	SW017, SW127, SW129

3.0 Methodology

The methodology used for the 2023 Wet Season and Rainfall Event Sampling was in general accordance with the SAQP (AECOM, 2023) and is summarised in **Sections 3.1-3.7**.

3.1 Groundwater Sampling Methodology

The groundwater sampling methodology is outlined in **Table 5** below.

Table 5 Groundwater Sampling Methodology

Item	Details
Groundwater Gauging	The depth to groundwater was measured in the monitoring wells using an interface probe. The depth to groundwater was also measured in each monitoring well immediately prior to the collection of groundwater samples. The data are presented in Tables T1 and T2 in Appendix B .
Water Quality Parameters	Field parameters are collected ex situ post-sampling using water from the HydraSleeve™. Temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), pH and observations of water quality were recorded using a calibrated water quality meter (WQM). The results are presented in Table T2, Appendix B . Equipment calibration certificates for the WQM are provided in Appendix F .
Sampling Methodology	Groundwater samples were collected from all monitoring wells using no-purge methodology HydraSleeves™, which were installed within the screened interval of each well (based on a review of the well construction log) for a minimum of 24 hours prior to the sampling round (as detailed in Table T2, Appendix B). For wells without available construction details, HydraSleeves™ were installed at the bottom of the well, consistent with the screened interval for wells installed in the same aquifer. HydraSleeves™ were not redeployed.

3.2 Surface Water Sampling Methodology

The surface water sampling methodology is outlined in **Table 6** below.

Table 6 Surface Water Sampling Methodology

Item	Details
Water Quality Parameters	Field parameters were collected ex situ post-sampling using water from the stainless-steel scoop. Temperature, EC, DO, ORP, pH and observations of water quality were recorded using a calibrated WQM (results detailed in Table T4, Appendix B).
Sampling Methodology	Samples were collected from immediately below the water surface with a sampling pole to minimise collection of sediment or floating materials in the samples. At each location, a decontaminated stainless-steel scoop was used to collect the sample. The sample was immediately transferred into laboratory supplied containers.

3.3 Sediment Sampling Methodology

The sediment sampling methodology is outlined in **Table 7** below.

Table 7 Sediment Sampling Methodology

Item	Details
Sampling Methodology	Samples representative of potentially deposited sediments were collected from within the water body (if possible) using a trowel from the base of drains (where possible). Samples were collected from the surface of the sediment up to a depth of 0.1 m, where this depth was achievable. At each location, a new laboratory supplied container was used for each sample.
Logging	Sediment characteristics were recorded for each sample and are summarised in Table T6, Appendix B .

3.4 Quality Assurance/Quality Control and Analysis

The Quality Assurance/Quality Control (QA/QC) requirements and analysis completed for the OMP sampling event are summarised in **Table 8**, below.

Table 8 QA/QC and Analysis for OMP

Item	Details
QA/QC Samples	Field QA/QC samples collected included intra-laboratory duplicate and inter-laboratory duplicate samples (i.e., splits), trip blank samples and rinsate samples. Intra- and inter-laboratory samples were collected at a rate of one per ten primary samples. Trip blanks were prepared in the laboratory by filling sampling containers with laboratory supplied PFAS-free deionised water and were included with three batches throughout the program (EB2311298, ET2302407 and 986709). This did not meet the expected frequency of one per batch of samples submitted to the laboratory. Rinsate samples were collected at a rate of one per day of sampling when non-dedicated equipment was used by pouring laboratory supplied PFAS-free deionised water over the decontaminated sampling equipment. Refer to Appendix C for assessment of QA/QC sample data.
Sample Analysis	All primary samples were submitted for PFAS suite analysis using the standard levels of detection. Australian Laboratory Services (ALS) Environmental Pty Ltd Brisbane, Queensland was used as the primary laboratory. Eurofins of Brisbane, QLD was used as the secondary laboratory. ALS and Eurofins methods for analyses of PFAS in are certified by the National Association of Testing Authorities (NATA). Chain of custody forms are presented in Appendix D . Laboratory certificates are presented in Appendix E .

3.5 Adopted Screening Criteria

Adopted screening criteria references national guidance in the form of the PFAS NEMP, Defence estate and environmental strategies, and Defence PFAS-specific strategies and guidance. Guidance documents used to assess the dataset include the following:

- PFAS NEMP, version 2.0 (HEPA 2020).
- Department of Health, 2019. *Health Based Guidance Values for PFAS for use in site investigations in Australia*. October 2017 [updated September 2019].
- *National Environment Protection (Assessment of Site Contamination) Measure 1999, Schedule B1, as amended in 2013* (ASC NEPM, 2013).

In accordance with the OMP (Defence, 2020) and SAQP (AECOM, 2023), the adopted PFAS screening criteria to assess the data generated as part of the OMP are presented in **Table 9** below.

Table 9 Summary of Adopted Screening Criteria

Pathway	Compound	Criteria	Comment / Reference
Human Health Receptors			
Drinking Water	PFOS + PFHxS	0.07 µg/L	The values are from the PFAS NEMP (HEPA, 2020). Where the guideline value refers to the sum of PFOS + PFHxS, this includes PFOS only, PFHxS only and the sum of the two (HEPA, 2020). <i>All off-Base groundwater results will be compared to these criteria.</i>
	PFOA	0.56 µg/L	
Recreational use – surface water	PFOS + PFHxS	2 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water results will be compared to these criteria.</i>
	PFOA	10 µg/L	
Ecological Receptors			
Freshwater and marine water (95% species protection values)	PFOS	0.13 µg/L	The values are from the PFAS NEMP (HEPA, 2020). <i>All surface water and groundwater results will be compared to these criteria.</i>
	PFOA	220 µg/L	

There are no endorsed human health or ecological guideline values available for sediment.

3.6 Data Quality Objectives and Data Validation

The data quality objectives and data quality indicators adopted for these works are presented in the SAQP (AECOM, 2023). Data validation assessment is provided in **Appendix C**. Data validation procedures employed in the assessment of the field and laboratory QA/QC data indicated that the reported analytical results are representative of the sample locations and that although some minor non-conformances are present, the overall quality of the analytical data produced is acceptably reliable for the purpose of this report.

All data collected during this event have been reviewed and uploaded to the Defence ESdat database in accordance with Defence Contamination Management Manual (DCMM) (Defence, 2018 as amended 2021) Annex L requirements.

3.7 Deviations from the SAQP

Table 10 lists the deviations from the SAQP (AECOM, 2023) during the 2023 Wet Season Sampling Event. There were no deviations from the SAQP during the April 2023 Rainfall Sampling Event.

Table 10 Deviations from the SAQP during 2023 Wet Season Sampling Event

SAQP	2023 Wet Season Sampling Event	Impact of Deviation
Gauge and Sample MW013	MW013 was unable to be sampled due to construction works being completed in SMA 1 restricting access to this location.	Minimal impact – adjacent location MW120 was substituted as an alternative to MW013 for the gauging round and for the generation of groundwater contours. MW118 remains within the northern portion of SMA1 and was able to be accessed and sampled to obtain a representative groundwater sample down-gradient of SMA1. Locations immediately south and east of SMA1 (MW033, MW034, MW063 and MW120) were accessed and sampled providing up- and cross-gradient information.
Sample MW258	MW258 was unable to be sampled due to a damaged gatic cover bolt preventing access to the well.	Minimal impact – MW225, MW257 and MW259 are in the vicinity of MW258, and were accessed and sampled providing adequate coverage of the area.
Collect co-located surface water and sediment samples at SW/SD106 and SW/SD209	SW/SD106 and SW/SD209 were inaccessible due to flooded road conditions.	Minimal impact – locations have been historically sampled and will be resampled in the dry season of 2023.
Water quality parameters recorded for every location sampled	One of the WQMs did not have a turbidity probe so this parameter was not recorded for 31 groundwater locations. Syncing errors resulted in the loss of data for an additional 2 groundwater and 2 surface water locations.	WQM is not used for assessment against guidelines and therefore there is minimal impact.
Trip Blank submitted to Laboratory with each batch	Trip blanks were included with three batches throughout the program (EB2311298, ET2302407 [two trip blanks were submitted for this batch] and 986709). This did not meet the expected frequency of one per batch of samples submitted to the laboratory.	Minor non-conformance. The overall quality of the analytical data produced is acceptably reliable for the purpose of this report.
Rainfall event sampling	Integration of rain event and wet season surface water sampling events.	No impact on data set. Data has been combined for both sampling events for the purpose of this report.

4.0 Field Observations and Results

The 2023 Wet Season Sampling Event was completed between 11 April and 4 May 2023. Groundwater gauging and deployment of HydraSleeves™ was conducted at the beginning of the sampling round.

Rainfall event sampling was completed between 17 April 2023 and 22 April 2023. Due to time constraints on the first day of rainfall sampling (17 April 2023), on-Base location SW121, and off-Base locations SW108, SW109, SW115, SW116, SW117, SW118 and SW129 were sampled for five consecutive days from 18 April 2023.

The results are summarised in the following sections.

Details on weather conditions and estate management works or training activities during the sampling event and access are recorded in **Table 11**.

Table 11 Weather Conditions and Estate Activities at Time of Sampling

Item	Observations
Weather Conditions	<p>Weather was overcast and humid during the sampling program. The temperature ranged between 23.2 °C and 31.0 °C in April 2023 and 17.4 °C and 28.5 °C in May 2023.</p> <p>A summary of the rainfall recorded since the Dry Season 2022 monitoring round and during the Wet Season Sampling Event includes:</p> <ul style="list-style-type: none"> • October 2022: 41.6 mm • November 2022: 293.2 mm • December 2022: 72.6 mm • January 2023: 410.6 mm • February 2023: 306.8 mm • March 2023: 88.0 mm • April 2023: 111.8 mm (rainfall sampling event triggered on 17 April 2023 with 65.4mm recorded at Townsville Aero (station 032040)) • 1 – 4 May 2023: 6.4 mm
Estate Management Works or Training Activities	<p>SMA 1 was undergoing remediation activities which prevented access to monitoring well location MW013.</p>

The results of the sampling event are summarised in **Sections 4.1-4.3**.

4.1 Groundwater

4.1.1 Observations and Field Measurements

Table 12 Groundwater Observations and Field Measurements

Item	Observations								
Access	All monitoring wells were accessible, with the exception of the following: <ul style="list-style-type: none"> MW013; construction works within SMA 1. MW258; damaged/bent bolt lodged in gatic. 								
Monitoring Well Network	All accessible monitoring wells were noted to be in good condition.								
Depth to Groundwater	<p>Selected wells were gauged to ascertain groundwater flow direction. For the gauging event undertaken over a 24-hour period between 27 and 28 April 2023 (presented in Table T1, Appendix B), depth to groundwater ranged between 0.508 (MW135) and 2.646 (MW214) mBTC. Groundwater elevations were between 1.017 (MW214) and 4.803 (MW236) mAHD. Groundwater was present at the top of the casing at location MW002 and was therefore removed from consideration of the gauging data set. Groundwater contours are presented on Figure 4, Appendix A.</p> <p>For the entire Wet Season 2023 dataset, depth to groundwater ranged between 0.074 (MW248) and 7.590 (MW261) metres below top of casing (mBTC). Groundwater elevations were between 0.317 (MW231) and 8.908 (MW261) metres Australian Height Datum (mAHD) during the sampling round. Groundwater gauging data are presented in Tables T1 and T2, Appendix B.</p>								
Field Observations	<p>Groundwater samples were found to be typically odour and sheen free, with the exception of the following samples.</p> <table border="1"> <thead> <tr> <th>Observation</th> <th>Affected wells</th> </tr> </thead> <tbody> <tr> <td>Sulfurous odour</td> <td>MW004, MW043, MW057, MW061, MW112, MW118, MW125, MW203, MW232, MW244</td> </tr> <tr> <td>Organic odour</td> <td>MW002, MW204, MW205, MW206, MW208, MW213, MW221, MW222, MW226, MW266, MW267, MW268</td> </tr> <tr> <td>Biosheen</td> <td>MW002</td> </tr> </tbody> </table> <p>Groundwater colour was typically recorded as light grey to light brown, with low to medium turbidity.</p> <p>No visible or olfactory indications of contamination were observed during the sampling of the other monitoring wells.</p> <p>Field observations are presented Table T2, Appendix B.</p>	Observation	Affected wells	Sulfurous odour	MW004, MW043, MW057, MW061, MW112, MW118, MW125, MW203, MW232, MW244	Organic odour	MW002, MW204, MW205, MW206, MW208, MW213, MW221, MW222, MW226, MW266, MW267, MW268	Biosheen	MW002
Observation	Affected wells								
Sulfurous odour	MW004, MW043, MW057, MW061, MW112, MW118, MW125, MW203, MW232, MW244								
Organic odour	MW002, MW204, MW205, MW206, MW208, MW213, MW221, MW222, MW226, MW266, MW267, MW268								
Biosheen	MW002								
Groundwater Flow Direction	<p>Groundwater contours and inferred groundwater flow directions for the gauging event undertaken within a 24-hour period between 27 and 28 April 2023 are shown on Figure 4, Appendix A.</p> <p>Consistent with historical groundwater data, the inferred local groundwater flow direction in the central and northern portions of the Base is to the north-north-west, towards the Town Common. Groundwater elevations in northern portions of the Base are flat. Flow in north-eastern portion is towards north-east and Cleveland Bay. There appears to be localised mounding of groundwater in the south-eastern corner of the Base, with radial groundwater flow to the north, north-east and north-west. Groundwater flow off-Base to the east, towards Cleveland Bay, is flat.</p>								
Water Quality Parameters	Groundwater quality parameters were measured at the time of sampling. The readings are presented in Table T2, Appendix B and are summarised below, covering the main sampling event completed in April 2023:								

Item	Observations
	<ul style="list-style-type: none"> • DO results ranged from 0.58 mg/L (MW267) to 6.91 mg/L (MW470) indicating poor to well oxygenated conditions. • EC ranged from 11.8 µS/cm (MW233) to 138,829 µS/cm (MW203) indicating fresh to saline conditions. • pH ranged from 4.06 (MW207) to 8.14 (MW033). pH results generally indicated acidic to slightly alkaline conditions. • ORP ranged from 20.1 mV (MW267) to 449.9 mV (MW015) indicating mildly to strongly reducing conditions. • Temperature ranged from 23.3°C (MW239) to 34.2°C (MW016). <p>One of the WQM did not have a turbidity probe so this parameter was not recorded for 31 groundwater locations. Water colour observations have been used as a turbidity indicator in these instances. Syncing errors resulted in the loss of field data for two groundwater samples (MW269 and MW218).</p>

4.1.2 Groundwater Analytical Results

Of the 105 groundwater wells sampled during the 2023 Wet Season Sampling Event, 92 samples reported concentrations of PFAS above the laboratory LOR. The PFAS groundwater analytical results from this sampling event are presented in **Table T3, Appendix B**.

One new exceedance of the ecological guideline for PFOS was recorded at MW262. The location of this well is off-Base to the west presented in **Figure 6, Appendix A**.

There were no first-time detections of PFOS, PFOA or PFHxS in any samples during the groundwater sampling event.

Historical groundwater results are presented in **Table T8, Appendix B**. Groundwater results from this sampling event were compared to the historical range of samples collected at each location, with the following locations reporting new historical maximum concentrations for:

- PFOS, PFOA and sum of PFOS+PFHxS at MW009, MW138, MW212, MW262
- PFOS and PFOA at MW218 and MW300
- PFOS and sum of PFOS+PFHxS at MW061, MW215, MW224
- PFOS at MW109, MW265
- PFOA at MW256.

Groundwater sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of MW138, MW215, MW218, MW262 and MW300, which reported concentrations of PFOS, or PFOA and/or sum of PFOS+PFHxS one order of magnitude (or higher) than historical results.

4.2 Surface Water

The 2023 rainfall sampling event was triggered during the planned 2023 wet season sampling event. As such, for each of the locations included in the rainfall sampling event the field observations and analytical results for the first sample collected were also included in the wet season sampling event dataset.

4.2.1 Observations and Field Measurements

Table 13 Surface Water Observations and Field Measurements

Item	Observations
Access	All surface water locations were accessible during the sampling event, with the exception of SW106 and SW209, due to flooded road conditions.

Item	Observations
Wet Season Field Observations	<p>All surface water locations were found to be odour free, with the exception of SW113 (slight organic odour) and SW107 (sulfurous odour). Surface water colour was recorded as light olive brown with clear to low turbidity. No sheen was noted at any of the wet season surface water locations.</p> <p>No other visible or olfactory indications of note were observed during the sampling of the surface water locations.</p> <p>Field observations are presented Table T4, Appendix B.</p>
Rain Event Field Observations	<p>All rainfall event surface water locations were found to be odour and sheen free, with the exception of the following.</p> <p>An organic odour was noted at the following rainfall surface water locations and date ranges:</p> <ul style="list-style-type: none"> • SW010: 18 April 2023 • SW016: 17 to 21 April 2023 • SW116: 21 April 2023 • SW118: 21 April 2023 • SW121: 18 April 2023, 21 April to 22 April 2023 • SW125: 18 April 2023 • SW131: 17 April, 20 April 2023 and 21 April 2023 <p>A biosheen was noted at the following rainfall surface water locations and date ranges:</p> <ul style="list-style-type: none"> • SW016: 17 to 20 April 2023 • SW102: 18 April 2023 • SW121: 18 April 2023, 20 April to 22 April 2023 • SW127: 20 April to 22 April 2023 <p>Formed foam was observed at the discharge point of the concrete lined drain at SW127 on 17 April 2023.</p> <p>Field observations are presented in Table T4, Appendix B.</p>
Wet Season Water Quality Parameters	<p><u>Wet Season Sampling Event</u></p> <p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below, covering the main sampling event completed in April 2023.</p> <ul style="list-style-type: none"> • DO results ranged between 4.17 mg/L (SW205) and 10.58 mg/L (SW201), indicating well oxygenated conditions. • EC ranged from 1,527 µS/cm (SW201) to 50,466 µS/cm (SW204), indicating brackish to saline conditions. • pH ranged from 6.50 (SW114) to 7.95 (SW111), indicating slightly acidic to slightly alkaline conditions. • ORP ranged from 180.5 mV (SW107) to 373.1 mV (SW110), indicating moderately to strongly reducing conditions. • Temperature ranged from 26.5°C (SW110) to 33.3°C (SW202). <p>Syncing errors resulted in the loss of data for 2 surface water locations (SW019 and SW119).</p>
Rain Event Water Quality Parameters	<p><u>Rain Event Sampling Event</u></p> <p>Surface water quality parameters were measured at the time of sampling. Readings are presented in Table T4, Appendix B and are summarised below, covering the rain event sampling completed in April 2023.</p> <ul style="list-style-type: none"> • DO results ranged between 1.33 mg/L (SW016) and 14.5 mg/L (SW132), indicating well oxygenated conditions. • EC ranged from 1 µS/cm (SW131) to 43,090 µS/cm (SW109), indicating fresh to saline conditions.

Item	Observations
	<ul style="list-style-type: none"> pH ranged from 5.86 (SW016) to 9.38 (SW125), indicating slightly acidic to slightly alkaline conditions. ORP ranged from 47.2 mV (SW016) to 404.3 mV (SW127), indicating moderately to strongly reducing conditions. Temperature ranged from 24.7°C (SW127) to 36°C (SW125).

4.2.2 PFAS Surface Water Analytical Results

Of the 21 surface water samples collected during the 2023 Wet Season Sampling Event, 20 samples reported concentrations of PFAS above the laboratory LOR. The PFAS surface water analytical results from this sampling event are presented in **Table T5, Appendix B**.

Two new exceedances were recorded at SW021 (PFOS) and SW107 (PFOS+PFHxS), locations shown on **Figure 6, Appendix A**.

Historical surface water results are presented in **Table T9, Appendix B**. Surface water results from this sampling event were compared to the historical range of samples collected at each location, with the following locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS; SW021, SW107, SW114 and SW210.

Surface water sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of SW107, which reported one order of magnitude (or higher) than historical results.

4.2.3 PFAS Rainfall Event Surface Water Analytical Results

The PFAS rainfall event surface water analytical results presented in **Table T5, Appendix B**, specifically highlighting first-time detections and/or new exceedances of human health and ecological screening criteria PFOS+PFHxS, PFOS and/or PFOA.

Of the 95 rainfall event surface water samples analysed, 93 samples reported PFAS concentrations above the laboratory LOR. Four new exceedances of the recreational use guideline value for Sum of PFOS+PFHxS were recorded during the rainfall sampling event. These locations were SW010, SW108, SW109 and SW116 (see **Figure 6, Appendix A**).

Historical rainfall event surface water results are presented in **Table T9, Appendix B**. Rainfall surface water results from this sampling event were compared to the historical range of samples collected at each location, with the following locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS; SW010, SW016, SW021, SW108, SW109, SW115, SW116, SW117, SW118, SW121, SW125, SW132.

Rainfall surface water sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of SW016, SW108, SW109 and SW125, which reported one order of magnitude (or higher) than historical results.

4.3 Sediment

4.3.1 Observations and Field Measurements

Table 14 Sediment Observations

Item	Observations
Access	All sediment locations were accessible during the sampling event, with the exception of SD106 and SD209, due to flooded road conditions.
Field Observations	No visible or olfactory indications of contamination were observed during the sampling of sediment locations. Organic odours were detected at sediment locations SD013, SD016, SD102, SD108, SD109, SD114, SD115, SD116, SD121, SD125, SD131, SD132 and SD210. Sediment logging and observation data are presented in Table T6, Appendix B .

4.3.2 PFAS Sediment Analytical Results

There are no endorsed human health or ecological guideline values available for sediment.

Of the 40 sediment samples collected, 37 samples reported concentrations of PFAS above the laboratory LOR. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Three first-time detections of PFOA in off-Base sediment samples were reported from SD108 (0.0002 mg/kg), SD204 (0.0002 mg/kg) and SD206 (0.0003 mg/kg) as shown in **Figure 5**. As all the concentrations are at, or marginally above the LOR, they are potentially false positives. There were no first-time detections of PFOS or Sum of PFOS+PFHxS in any samples during this sampling event. The PFAS sediment analytical results from this sampling event are presented in **Table T7, Appendix B**.

Historical sediment results are presented in **Table T10, Appendix B**. Sediment results from this sampling event were compared to the historical range of samples collected at each location, with the following locations reporting new historical maximum concentrations for PFOS, PFOA and/or Sum of PFOS+PFHxS; SD010, SD016, SD107, SD108, SD125, SD131, SD132, SD203, SD204, SD206.

Sediment sampling results were generally within the same order of magnitude as historically reported concentrations, with the exception of SD016, SD125 and SD132, which reported one order of magnitude (or higher) than historical results.

5.0 Summary and Next Sampling Event

5.1 Summary of Sampling Event

The 2023 Wet Season and Rainfall Sampling Events were undertaken between 11 April and 4 May 2023, and included sampling from:

- 105 groundwater monitoring locations;
- 40 co-located surface water and sediment monitoring locations; and
- 19 rainfall event-based surface water locations sampled for a period of five consecutive days.

The wet season sampling event and rainfall sampling events were combined for the purposes of this report.

Table 15 summarises the findings of the sampling event and the recommended actions.

Table 15 Summary of Sampling Event

Item	Comment	Recommended Actions
<p><u>Groundwater:</u> Access to sampling locations and monitoring well network condition.</p>	<ul style="list-style-type: none"> • All monitoring wells were accessible, with the exception of MW013 (construction works within SMA 1) and MW258 (damaged/bent bolt lodged in gatic). 	<ul style="list-style-type: none"> • Access to MW013 will be reinspected during the October 2023 sampling event. • Repair of damaged MW258 to allow future access.
<p><u>Sediment/Surface Water:</u> Access to sampling locations</p>	<ul style="list-style-type: none"> • All co-located surface water and sediment locations were accessible, with the exception of SW/SD106 and SW/SD209, due to flooded road conditions. • All 19 rainfall event-based surface water locations were accessed daily for five consecutive days from 17 April to 22 April 2023. 	<ul style="list-style-type: none"> • Assess access to SW/SD106 and SW/SD209 during next sampling event.
<p><u>Analytical Results</u></p>	<p><u>2023 Wet Season Sampling Event:</u> PFAS were detected above laboratory LOR in:</p> <ul style="list-style-type: none"> • 92 of 105 groundwater samples • 20 of 21 surface water samples • 37 of 40 sediment samples <p><u>April 2023 Rainfall Sampling Event:</u> PFAS were detected above laboratory LOR in 93 of 95 rainfall event-based surface water samples.</p>	<p>Ongoing monitoring in accordance with the OMP.</p>
<p><u>First-time detections of PFOS, PFOA or Sum of PFOS+PFHxS</u></p>	<ul style="list-style-type: none"> • Three first-time detections of PFOA in sediment; SD108, SD204 and SD206. 	<p>Ongoing monitoring in accordance with the OMP.</p>
<p><u>New exceedances of screening criteria for PFOS, PFOA or Sum of PFOS+PFHxS</u></p>	<ul style="list-style-type: none"> • One new exceedance of the NEMP (2020) Freshwater and Interim Marine 95% screening criteria for PFOS in groundwater (MW262) • Two new exceedances of screening criteria for surface water; SW021 (PFOS) and SW107 (Sum of PFOS+PFHxS) • Four new exceedances of screening criteria for Sum of PFOS+PFHxS rainfall event surface water; SW010, SW108, SW109 and SW116. 	<p>Ongoing monitoring in accordance with the OMP.</p>

5.2 Upcoming Sampling Events

The next biannual sampling event is scheduled for October 2023.

5.3 Upcoming Ongoing Monitoring Interpretive Report

The next Ongoing Monitoring Interpretive Report is scheduled for October 2023.

6.0 References

- AECOM. (2023). *PFAS OMP RAAF Townsville Sampling, Analysis and Quality Plan, Rev 9, updated 5 April 2023*.
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Appendix A

Figures



Legend

- Watercourse
- Management Area
- Sub-Management Area
- Monitoring Area

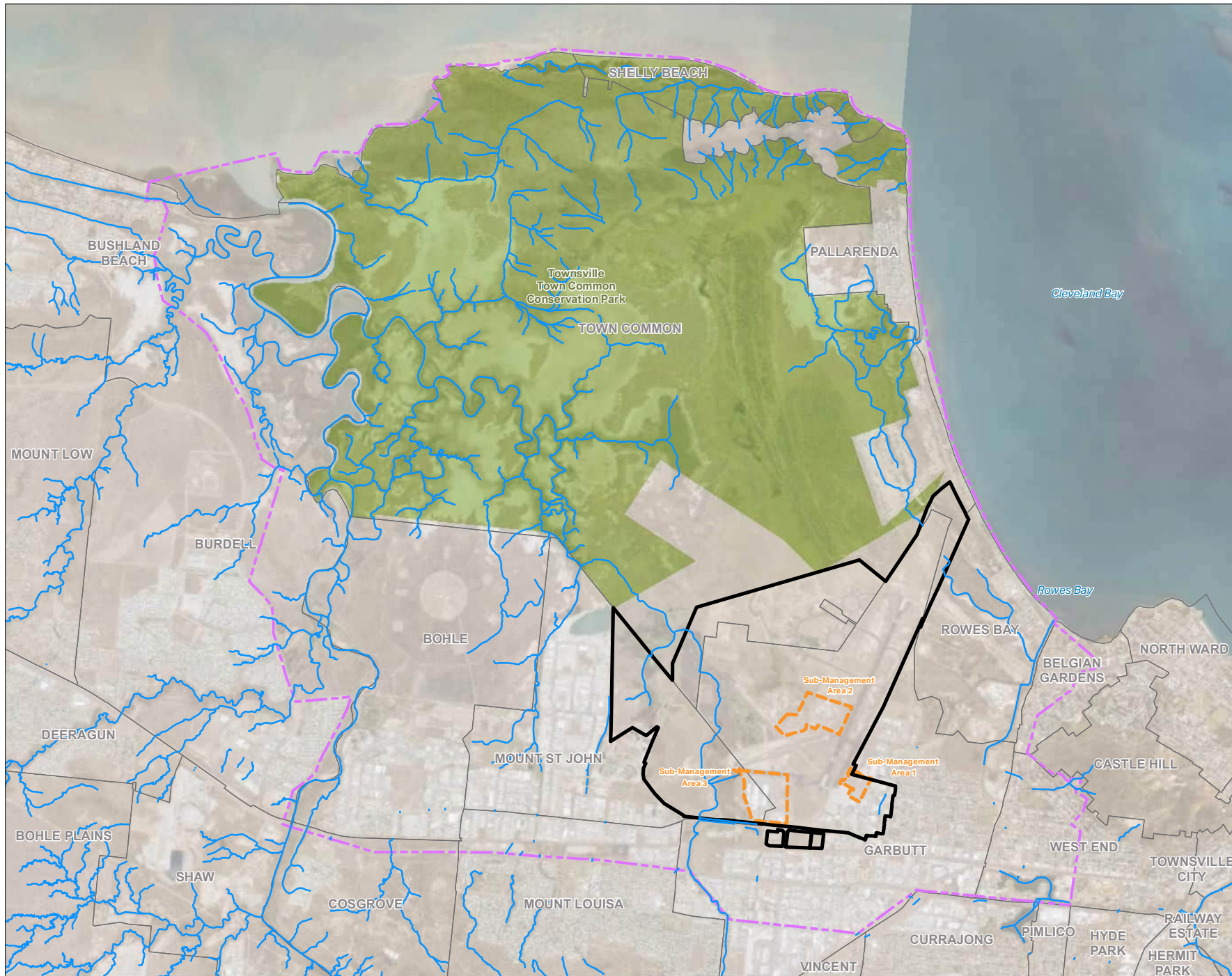


FIGURE 1:
RAAF BASE TOWNSVILLE
LOCATION PLAN

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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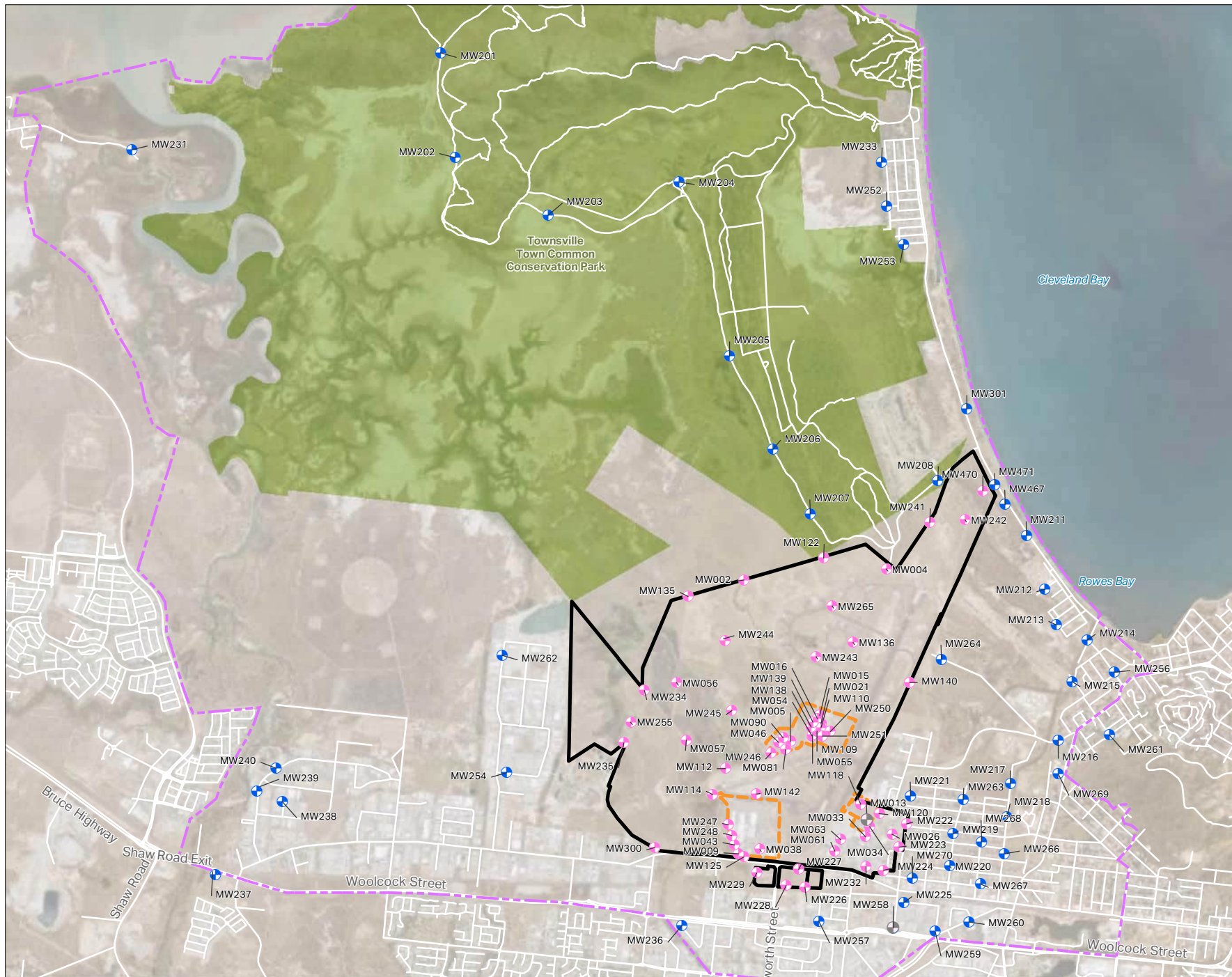
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Base Data: (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Management Area
- Sub-Management Area
- Monitoring Area
- On-base Monitoring Well
- Off-base Monitoring Well
- Lost/ Inaccessible Monitoring Well



**FIGURE 2:
GROUNDWATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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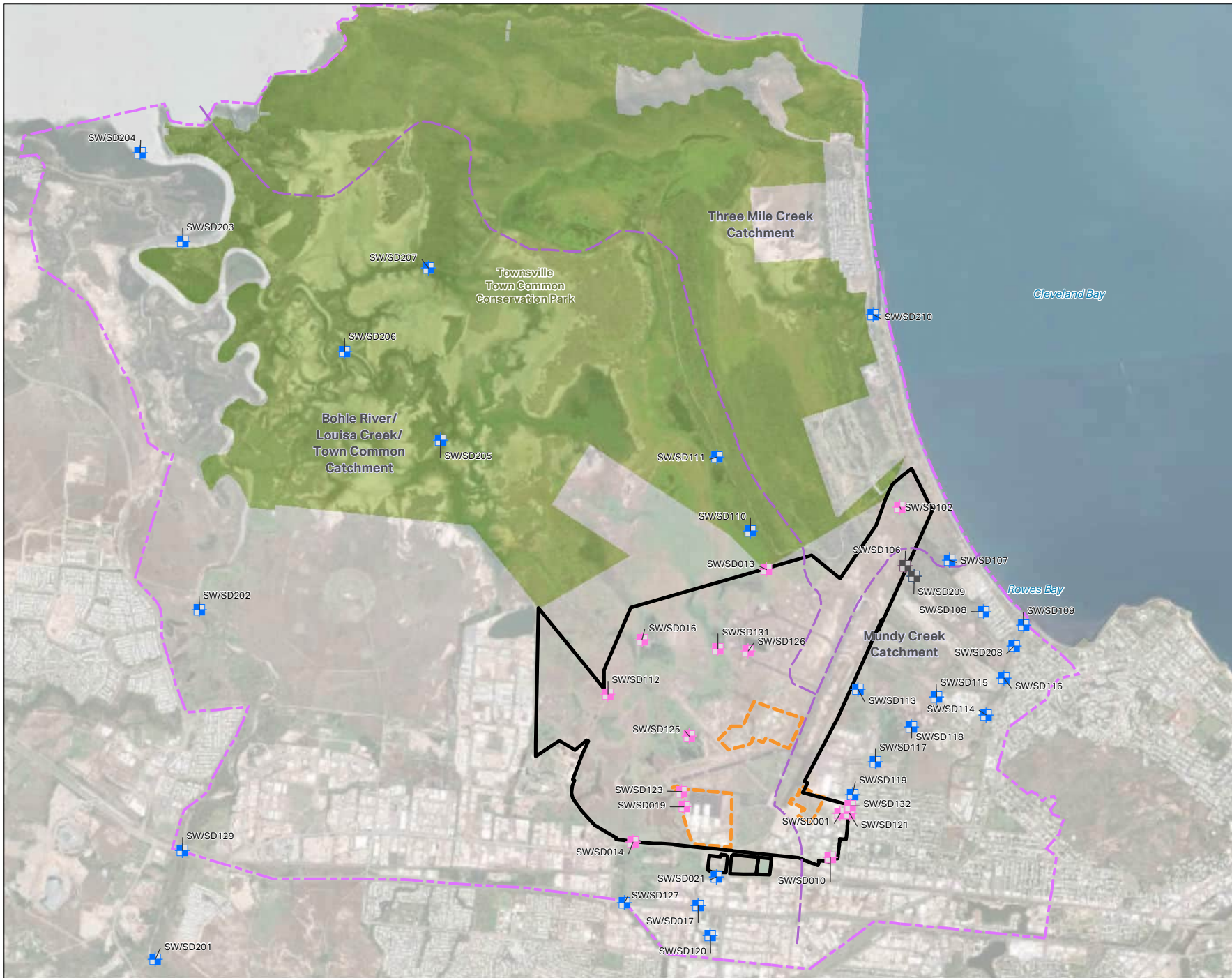
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USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- Catchment Boundaries
- Management Area
- Sub-Management Area
- Monitoring Area
- Off-base Surface Water/Sediment Locations
- On-Base Surface Water/Sediment Locations
- Inaccessible Surface Water/Sediment Locations



**FIGURE 3:
SURFACE WATER AND
SEDIMENT MONITORING
LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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Sources:
Base Data, (c) 2020 (ESRI, Digital Globe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN and the GIS User

Legend

- On-base Monitoring Well
- Off-base Monitoring Well
- Monitoring Well not gauged due to flooding
- Management Area
- Sub-Management Area
- Monitoring Area
- Groundwater contour (mAHD)
- Inferred Groundwater Flow Direction

**FIGURE 4:
INFERRED
GROUNDWATER
CONTOURS -
WET SEASON**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
CLIENT NAME:
Department of Defence
PROJECT NUMBER:
60612487

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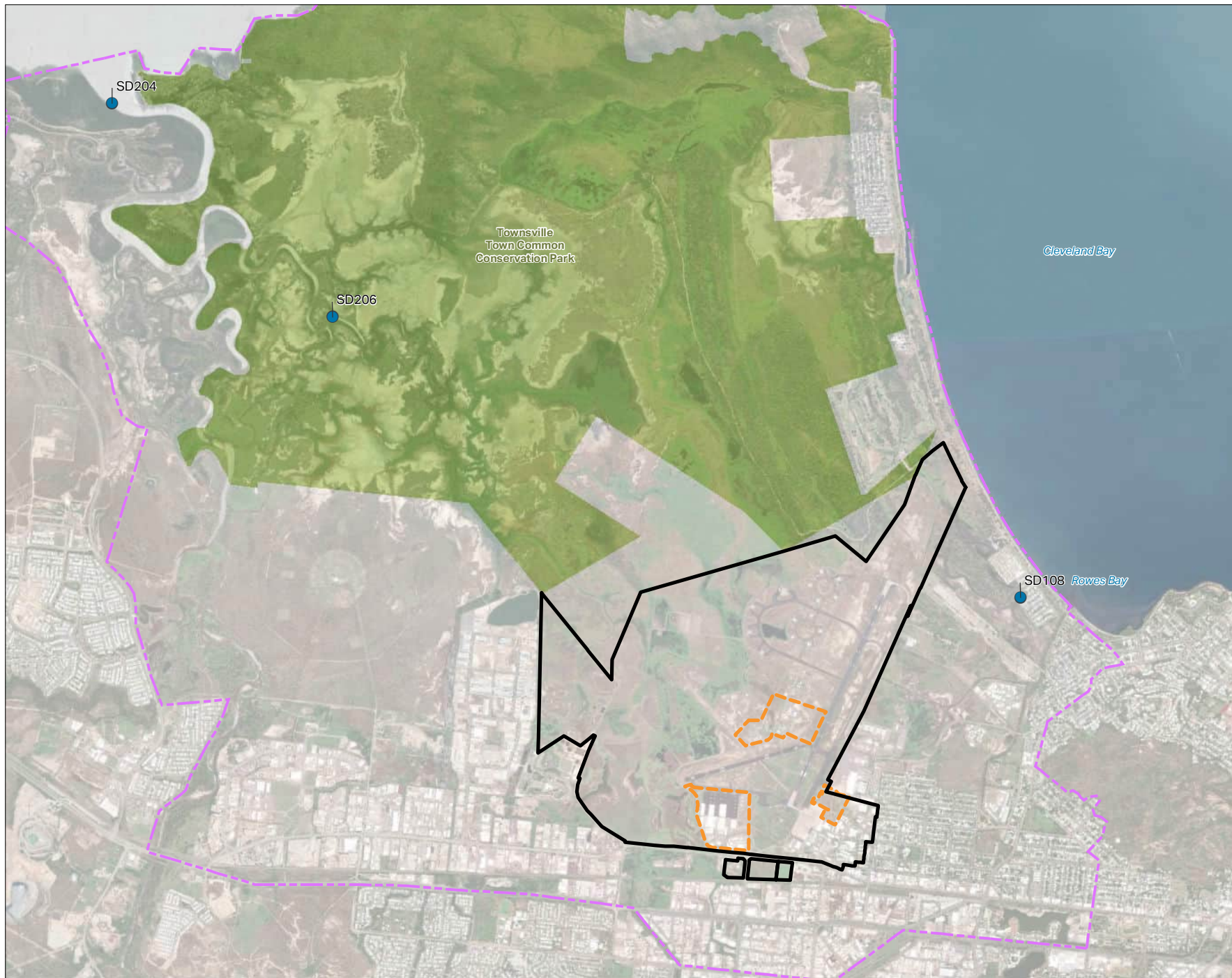
Legend

Management Area

Monitoring Area

Sub-Management Area

First time detection of PFOA >LOR



**FIGURE 5:
FIRST-TIME DETECTION
OF PFOA ABOVE LOR
IN SEDIMENT**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
CLIENT NAME:
Department of Defence
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Legend

- Management Area
- Monitoring Area
- Sub-Management Area

New Exceedances of Screening Criteria

* Rainfall event surface water sample exceedances

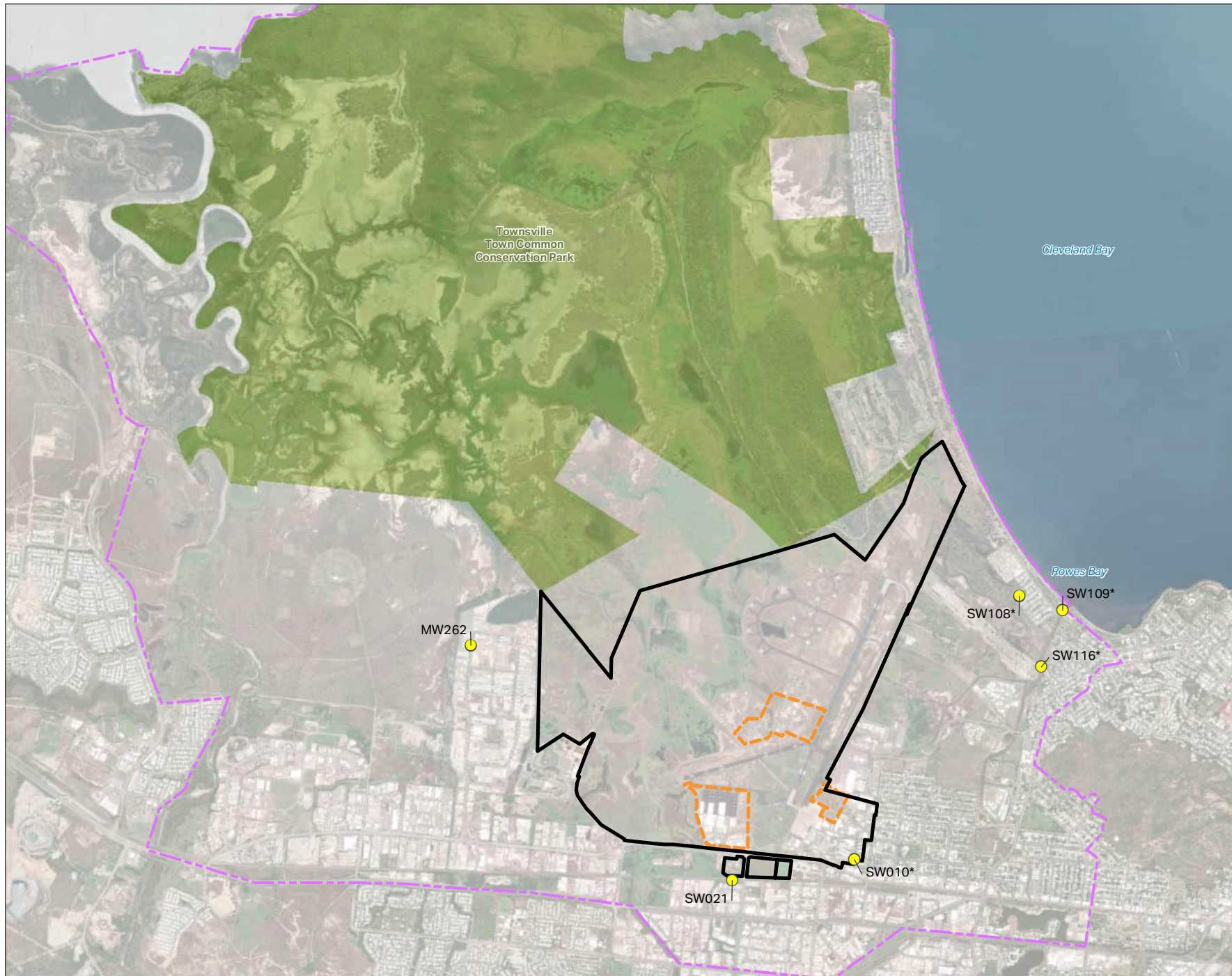


FIGURE 6:
FIRST-TIME EXCEEDANCE OF SCREENING CRITERIA FOR PFOS OR PFHXS AND PFOS IN SURFACE WATER OR GROUNDWATER

PROJECT NAME: PFAS OMP
REPORT NAME: PFAS OMP – RAAF Base Townsville, Sampling Event Factual Report, April and May 2023
CLIENT NAME: Department of Defence
PROJECT NUMBER: 60612487

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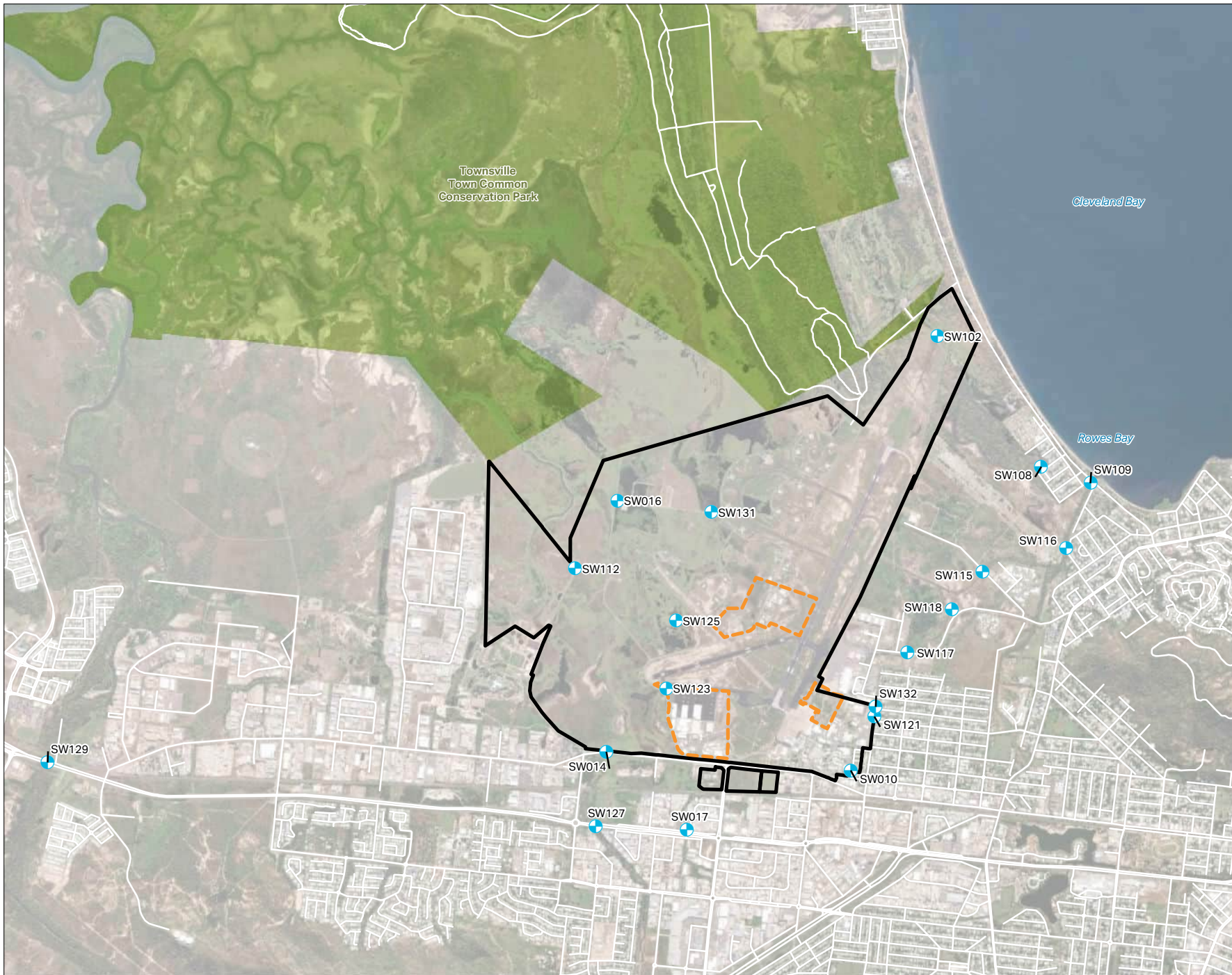
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Legend

- Management Area
- Sub-Management Area

- Rainfall Event
- Surface Water Sample Location



**FIGURE 7:
RAINFALL EVENT-BASED
SURFACE WATER
MONITORING LOCATIONS**

PROJECT NAME:
PFAS OMP
REPORT NAME:
PFAS OMP – RAAF Base Townsville,
Sampling Event Factual Report,
April and May 2023
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Appendix B

Analytical Tables

T1: Groundwater Gauging

Property ID	Location ID	Gauging Date	Gauging Time	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)
0874	MW002^	27/04/2023	10:10	4.63	0.000	1.866	1.866
0874	MW004	27/04/2023	09:58	5.18	1.048	3.181	2.133
0874	MW009	27/04/2023	11:15	4.79	0.865	3.520	2.655
0874	MW016	27/04/2023	13:08	3.54	1.172	3.450	2.278
0874	MW046	27/04/2023	13:21	4.43	0.692	2.844	2.152
0874	MW055	27/04/2023	13:17	4.91	1.107	3.563	2.456
0874	MW056	27/04/2023	12:50	5.42	0.742	2.955	2.213
0874	MW063	27/04/2023	11:23	5.31	0.782	4.852	4.070
0874	MW114	27/04/2023	10:56	5.15	1.078	3.325	2.247
0874	MW118	28/04/2023	09:22	4.52	0.697	4.370	3.673
0874	MW120	27/04/2023	11:45	5.76	0.713	4.549	3.836
0874	MW135	27/04/2023	10:18	5.66	0.508	2.275	1.767
0874	MW136	27/04/2023	10:37	5.70	0.638	2.823	2.185
0874	MW205	28/04/2023	08:15	5.00	1.169	3.239	2.070
0874	MW206	28/04/2023	08:21	4.40	1.407	3.280	1.873
0874	MW212	27/04/2023	10:15	3.93	1.053	2.835	1.782
0874	MW214	27/04/2023	10:38	4.88	2.646	3.663	1.017
0874	MW216	27/04/2023	10:56	4.21	1.376	3.544	2.168
0874	MW217	27/04/2023	11:40	5.70	1.412	3.271	1.859
0874	MW218	27/04/2023	11:58	4.97	0.996	2.908	1.912
0874	MW221	27/04/2023	12:13	5.40	1.244	3.813	2.569
0874	MW223	27/04/2023	11:37	4.74	1.181	5.337	4.156
0874	MW225	27/04/2023	12:25	6.80	1.561	5.585	4.024
0874	MW232	27/04/2023	11:30	4.77	1.31	5.767	4.457
0874	MW241	27/04/2023	09:54	4.73	1.341	3.114	1.773
0874	MW244	27/04/2023	10:28	4.68	0.950	2.273	1.323
0874	MW247	27/04/2023	11:03	4.09	1.076	4.399	3.323
0874	MW264	27/04/2023	16:00	5.16	1.170	3.190	2.020
0874	MW300	27/04/2023	12:25	6.70	1.498	5.070	3.572

mbtoc - metres below top of casing

TOC - top of casing

mAHD - metres above Australian Height Datum

^ MW002 omitted from groundwater elevation contours (Figure 4) due to anomalous SWL. Water level was at the top of casing.

T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbgl)	HydraSleeve Collar Depth (mbgl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Sub-management area one																					
0874	MW013																				unable to locate well due to construction work - covered in soil.
0874	MW118	26/04/2023	NA	3.22	28/04/2023	4.52	0.673	4.370	3.697	Good	2.97	877	6.67	-63	131	29.3	Low	Light Yellow	Rotten egg smell (sulphurous)	No sheen	
Sub-management area two																					
0874	MW005	24/04/2023	NA	4.42	26/04/2023	5.72	1.694	3.922	2.228	Good	2.37	71314	6.66	61.3	255.3	27.7	Medium	Light Grey	No odour	No sheen	
0874	MW015	26/04/2023	NA	2.11	27/04/2023	3.407	1.183	3.343	2.160	Good	3.48	36880	5.94	255.9	449.9	33.4	Low	Light Brown	No odour	No sheen	
0874	MW016	26/04/2023	NA	2.24	27/04/2023	3.543	1.167	3.450	2.283	Good	2.76	12394	6.45	-57.2	136.8	34.2	Clear	Clear	No odour	No sheen	
0874	MW021	26/04/2023	NA	1.96	27/04/2023	3.26	0.996	3.301	2.305	Good	2.55	8624	6.88	35.4	229.4	33.9	Low	Clear	No odour	No sheen	
0874	MW046	24/04/2023	NA	3.12	26/04/2023	4.42	0.692	2.844	2.152	Good	4.03	4962	7.67	42.5	236.5	29.2	Medium	Light Grey	No odour	No sheen	
0874	MW054	24/04/2023	NA	4.32	26/04/2023	5.62	1.094	3.669	2.575	Good	2.61	10594	7.56	182.8	376.8	30.5	Low	Light Grey	No odour	No sheen	
0874	MW055	24/04/2023	NA	3.62	26/04/2023	4.92	1.107	3.563	2.456	Good	2.59	5019	7.82	88.4	282.4	31.5	Low	Light Grey	No odour	No sheen	
0874	MW081	24/04/2023	NA	3.65	26/04/2023	4.95	0.773	3.408	2.635	Good	1.68	10269	7.26	57.6	251.6	30.4	Medium	Light Grey	No odour	No sheen	
0874	MW090	24/04/2023	NA	1.58	26/04/2023	2.88	1.02	3.303	2.283	Good	3.39	5380	7.72	21.7	215.7	30.7	Medium	Light Grey	No odour	No sheen	
0874	MW109	24/04/2023	NA	4.54	26/04/2023	5.84	1.17	3.255	2.085	Good	2.84	22470	7.37	-73.3	120.7	29.3	Medium	Light Grey	No odour	No sheen	
0874	MW110	24/04/2023	NA	3.38	26/04/2023	4.68	0.673	2.853	2.180	Good	2.27	9710	6.82	-59.3	134.7	28.8	Medium	Yellow / Brown	No odour	No sheen	
0874	MW138	24/04/2023	3-6	4.68	26/04/2023	5.98	1.468	2.903	1.435	Good	2.96	39537	6.88	-84.2	109.8	29	Low	Light Grey	No odour	No sheen	
0874	MW139	24/04/2023	3-6	4.69	26/04/2023	5.99	1.039	3.443	2.404	Good	3.13	19623	7.28	8.1	202.1	31.2	Medium	Light Grey	No odour	No sheen	
0874	MW246	26/04/2023	1-7	5.86	26/04/2023	7.16	1.103	3.901	2.798	Good	3.00	46458	6.24	122.1	316.1	30	Medium	Light Grey	No odour	No sheen	
0874	MW250	26/04/2023	1-6	3.73	28/04/2023	5.03	1.684	3.916	2.232	Good	3.01	2330	7.00	46	240	30.1	Low	Clear	No odour	No sheen	
0874	MW251	26/04/2023	0.7-6.7	5.73	28/04/2023	7.03	1.082	3.440	2.358	Good	2.18	49959	6.27	128.7	322.7	30.8	Low	Clear	No odour	No sheen	
Sub-management area three																					
0874	MW009	14/04/2023	NA	3.49	4/05/2023	4.79	0.884	3.520	2.636	Good	3.41	35086	6.54	89.7	283.7	31.4	Low	Clear	No odour	No sheen	
0874	MW038	14/04/2023	NA	3.30	4/05/2023	4.6	0.54	4.734	4.194	Good	3.07	8521	7.89	-137.8	56.2	31.5	Clear	Clear	No odour	No sheen	
0874	MW043	14/04/2023	NA	4.41	28/04/2023	5.71	0.844	3.613	2.769	Good	2.35	62293	6.4	-55.9	138.1	30.7	Clear	Clear	Rotten egg smell (sulphurous)	No sheen	HydraSleeve™ deployed 14.04.23, string with possible top from data logger attached to jcap - replaced
0874	MW114	14/04/2023	NA	3.85	28/04/2023	5.15	1.084	3.325	2.241	Good	2.74	4400	6.77	-69.9	124.1	29.3	Low	Clear	No odour	No sheen	
0874	MW125	14/04/2023	5-11	8.35	4/05/2023	9.65	1.673	4.617	2.944	Good	2.62	105933	6.02	-16.2	177.8	30.5	Low	Clear	Rotten egg smell (sulphurous)	No sheen	
0874	MW142	26/04/2023	3-6	4.80	28/04/2023	6.1	0.675	3.169	2.494	Good	2.09	68701	6.18	107.8	301.8	29.4	Clear	Clear	No odour	No sheen	
0874	MW247	14/04/2023	0.8-3.5	2.79	4/05/2023	4.09	1.122	4.399	3.277	Good	3.84	1223	7.27	-15.3	178.7	28.4	Low	Clear	No odour	No sheen	HydraSleeve™ deployed 14.04.23, string with possible top of data logger attached to jcap - replaced
0874	MW248	14/04/2023	1-4	2.29	4/05/2023	3.59	0.074	3.943	3.869	Good	3.38	12965	7.51	-87	107	28.4	Low	Clear	No odour	No sheen	
Remaining On-Base																					
0874	MW002	24/04/2023	NA	3.38	27/04/2023	4.68	0	1.866	1.866	Good	1.80	36468	6.46	-92.7	101.3	29.5	Low	Clear	Slight Organic Odour	Biosheen Appearance	Water level was at the top of casing.
0874	MW004	24/04/2023	NA	3.93	27/04/2023	5.23	1.048	3.181	2.133	Good	3.26	6959	6.37	-20.2	173.8	28.8	Medium	Light Grey	Hydrogen Sulphide odour	No sheen	
0874	MW026	12/04/2023	NA	3.57	4/05/2023	4.87	1.439	5.164	3.725	Good	2.70	1344	7.55	-100.4	93.6	32.8	Low	Clear	No odour	No sheen	
0874	MW033	12/04/2023	NA	2.62	4/05/2023	3.92	2.215	5.860	3.645	Good	4.41	1502	8.14	-49	145	32.3	Medium	Light Brown	No odour	No sheen	
0874	MW034	12/04/2023	NA	2.49	4/05/2023	3.79	1.756	5.434	3.678	Good	2.97	22983	6.71	-43.4	150.6	32.7	Medium	Light Grey	No odour	No sheen	
0874	MW056	14/04/2023	NA	4.12	4/05/2023	5.42	0.885	2.955	2.070	Good	3.85	43206	6.55	30.7	224.7	26.2	Clear	Clear	No odour	No sheen	
0874	MW057	14/04/2023	NA	4.94	28/04/2023	6.24	0.878	3.114	2.236	Good	2.27	68448	6.55	-64.1	129.9	28.5	Clear	Clear	Rotten egg smell (sulphurous)	No sheen	
0874	MW061	12/04/2023	NA	4.18	4/05/2023	5.48	0.945	4.668	3.723	Good	2.91	2532	7.96	-145.6	48.4	32.2	Clear	Clear	Rotten egg smell (sulphurous)	No sheen	
0874	MW063	12/04/2023	NA	4.01	4/05/2023	5.31	0.777	4.852	4.075	Good	2.86	13938	6.9	38.9	232.9	31	Clear	Clear	No odour	No sheen	
0874	MW112	17/04/2023	NA	4.08	4/05/2023	5.38	1.045	3.300	2.255	Good	3.02	30093	5.82	-16.1	177.9	29.1	Low	Clear	Rotten egg smell (sulphurous)	No sheen	
0874	MW120	12/04/2023	NA	4.46	4/05/2023	5.76	0.722	4.549	3.827	Good	2.84	4811	7.35	-45	149	32.1	Low	Clear	No odour	No sheen	
0874	MW122	24/04/2023	1.5-4.5	5.08	27/04/2023	6.38	0.698	2.451	1.753	Good	2.13	33291	6.05	54	248	29.2	Low	Clear	No odour	No sheen	
0874	MW135	14/04/2023	1.5-4.5	4.36	28/04/2023	5.66	0.563	2.275	1.712	Good	2.25	55331	6.36	-103.7	90.3	28.9	Medium	Light Brown	No odour	No sheen	
0874	MW136	26/04/2023	NA	4.40	4/05/2023	5.7	0.605	2.823	2.218	Good	4.30	5934	7.91	-120.1	73.9	29	Clear	Clear	No odour	No sheen	
0874	MW140	26/04/2023	NA	10.90	28/04/2023	12.2	0.656	2.728	2.072	Good	2.12	71960	5.98	48	242	27.2	Low	Clear	No odour	No sheen	
0874	MW222	14/04/2023	1.2-8	6.55	4/05/2023	7.85	0.592	4.568	3.976	Good	3.36	2083	6.95	-101.8	92.2	27.3	Low	Light Yellow	Slight Organic Odour	No sheen	
0874	MW223	12/04/2023	1.5-4.5	3.44	4/05/2023	4.74	1.146	5.337	4.191	Good	2.95	2787	7.14	85.2	279.2	29.1	Low	Clear	No odour	No sheen	
0874	MW224	12/04/2023	2.2-8.2	6.65	4/05/2023	7.95	1.153	5.001	3.848	Good	2.81	21939	6.78	29.5	223.5	29.2	Low	Clear	No odour	No sheen	Sediment observed near top of well approx. 10 cm btoc, jcap slightly displaced
0874	MW226	12/04/2023	1.5-6.5	5.08	4/05/2023	6.38	0.705	5.172	4.467	Good	2.89	6136	6.82	-109.5	84.5	26.9	Low	Yellow	Slight Organic Odour	No sheen	Jcap not secure
0874	MW227	12/04/2023	1-8	6.53	4/05/2023	7.83	0.731	4.693	3.962	Good	3.44	19600	6.7	-82.2	111.8	28.1	Clear	Clear	No odour	No sheen	
0874	MW228	12/04/2023	1.5-8	6.55	13/04/2023	7.85	0.895	4.944	4.049	Good	2.85	22892	6.56	-7.7	186.3	31.9	-	Light Brown	No odour	No sheen	
0874	MW229	14/04/2023	1-9.7	8.56	4/05/2023	9.86	1.622	5.387	3.765	Good	2.41	38925	6.08	-3.1	190.9	28.4	Low	Clear	No odour	No sheen	
0874	MW232	12/04/2023	1-5	3.47	4/05/2023	4.77	1.283	5.767	4.484	Good	2.51	3449	7.48	-89.6	104.4	29.6	Low	Clear	Rotten egg smell (sulphurous)	No sheen	
0874	MW234	24/04/2023	1-6	6.05	4/05/2023	7.35	1.481	3.216	1.735	Good	2.46	114839	6.66	-45.8	148.2	27.7	Low	Light Brown	No odour	No sheen	
0874	MW235	24/04/2023	1-8	5.34	4/05/2023	6.64	1.479	3.380	1.901	Good	2.24	56194	6.85	23	217	28.8	Low	Clear	No odour	No sheen	
0874	MW241	24/04/2023	1-4	3.38	27/04/2023	4.68	1.341	3.114	1.773	Good	2.24	11683	6.83	84.1	278.1	30.8	Low	Light Grey	No odour	No sheen	
0874	MW242	24/04/2023	1-4	3.52	27/04/2023	4.82	1.426	3.081	1.655	Good	2.17	10500	7.23	-121	73	31.2	Low				

T2: Groundwater Field Parameters

Property ID	Location ID	HydraSleeve Deployment Date	Screen Interval (mbl)	HydraSleeve Collar Depth (mbl)	Sample Date	Well Depth (mbtoc)	Depth to Water (mbtoc)	TOC Elevation (mAHD)	Groundwater Elevation (mAHD)	Condition of Gatic / Monument	DO (mg/L)	EC (µS/cm)	pH	Eh / Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
Off-Base																					
0874	MW201	21/04/2022	2-5.2	4.61	3/05/2023	5.91	1.566	3.132	1.566	Good	6.37	23117	7.8	103.4	297.4	27.9	Low	Clear	No odour	No sheen	Lock rusted - bolt cutters used to cut lock open
0874	MW202	21/04/2022	2-5	4.71	3/05/2023	6.01	1.389	2.904	1.515	Good	3.15	100571	6.61	155.4	349.4	28.7	Low	Clear	No odour	No sheen	
0874	MW203	21/04/2022	1-4	3.47	3/05/2023	4.77	1.31	2.785	1.475	Good	2.27	138829	6.16	-129.5	64.5	30	Turbid	Grey	Rotten egg smell (sulfurous)	No sheen	
0874	MW204	14/04/2023	1.2-4.2	3.63	21/04/2023	4.93	2.716	4.759	2.043	Good	1.13	2427	6.15	-18.9	175.1	28.8	-	Light Grey	Organic Odour	No sheen	Organic material
0874	MW205	14/04/2023	1.2-4.2	3.70	21/04/2023	5	1.295	3.239	1.944	Good	1.37	9386	5.41	-43.1	150.9	27.3	-	Light Yellow	Organic Odour	No sheen	
0874	MW206	14/04/2023	1-4	3.10	21/04/2023	4.4	1.495	3.280	1.785	Good	1.47	2731	4.33	12	206	28.4	-	Light Grey	Organic Odour	No sheen	
0874	MW207	14/04/2023	2-6	4.92	21/04/2023	6.22	1.842	3.825	1.983	Good	1.73	22811	4.06	-0.2	193.8	26.6	-	Light Grey	No odour	No sheen	
0874	MW208	14/04/2023	1-4	3.49	21/04/2023	4.79	2.317	4.060	1.743	Good	0.81	1049	7.19	-169.7	24.3	27.3	-	Light Grey	Organic Odour	No sheen	black sediment and organic material in sleeve
0874	MW211	13/04/2023	2-6	3.85	25/04/2023	5.15	3.144	4.990	1.846	Good	2.62	1093	7.29	-125	69	30.7	Medium	Light Grey	No odour	No sheen	
0874	MW212	14/04/2023	1-4	2.63	25/04/2023	3.93	1.005	2.835	1.830	Good	2.48	1023	6.76	-105.7	88.3	33.4	Low	Light Grey	No odour	No sheen	
0874	MW213	13/04/2023	1-4.5	3.51	25/04/2023	4.81	2.027	3.762	1.735	Good	2.32	2350	6.21	-13.1	180.9	30.6	Turbid	Grey	Slight Organic Odour	No sheen	Tree roots cleared at 2.65 with bailer, deployed 13.04.23
0874	MW214	13/04/2023	1-5	3.58	21/04/2023	4.88	2.672	3.663	0.991	Good	2.39	41835	6.78	33	227	24.7	-	Clear	No odour	No sheen	
0874	MW215	13/04/2023	1-7	5.04	21/04/2023	6.34	2.68	3.269	0.589	Good	1.22	2434	6.56	-112.6	81.4	24.8	-	Clear	No odour	No sheen	
0874	MW216	13/04/2023	1-4.5	2.91	21/04/2023	4.21	1.363	3.544	2.181	Good	1.47	370	6.01	-30.7	163.3	28	-	Clear	No odour	No sheen	
0874	MW217	13/04/2023	2-6	4.40	21/04/2023	5.7	1.415	3.271	1.856	Good	1.12	16825	7.35	-23.8	170.2	30.4	-	Light Grey	No odour	No sheen	sediment
0874	MW218	11/04/2023	2-6	3.67	25/04/2023	4.97	0.975	2.908	1.933	Good	-	-	-	-	-	-	-	Clear	No odour	No sheen	
0874	MW219	11/04/2023	3-11	7.42	20/04/2023	8.72	1.32	4.408	3.088	Good	1.20	5563	7.06	-60.4	133.6	28.1	-	Clear	No odour	No sheen	
0874	MW220	11/04/2023	1-6.5	4.15	20/04/2023	5.45	0.921	4.183	3.262	Good	1.10	796	7.04	34.2	228.2	31.2	-	Clear	No odour	No sheen	
0874	MW221	13/04/2023	1-6	4.10	21/04/2023	5.4	1.298	3.813	2.515	Good	1.13	4715	6.93	-77.2	116.8	30	-	Light Grey	Organic Odour	No sheen	Weed on the interface probe. HydraSleeve™ deployed
0874	MW225	11/04/2023	1-7	5.50	20/04/2023	6.8	1.52	5.585	4.065	Good	1.83	1806	7.23	46.7	240.7	29	-	Clear	No odour	No sheen	organic material in hs
0874	MW231	21/04/2022	1-5	4.34	11/04/2023	5.64	2.696	3.013	0.317	Good	4.98	17660	7.24	-55.6	138.4	29.8	Turbid	Black / Grey	No odour	No sheen	HydraSleeve™ present.
0874	MW233	13/04/2023	1.5-3.9	2.74	14/04/2023	4.04	1.48	2.900	1.420	Good	6.71	11.8	7.26	89.4	283.4	32.2	-	Clear	No odour	No sheen	
0874	MW236	21/04/2022	2-7	4.04	12/04/2023	5.34	2.158	5.441	3.283	Good	3.11	850	7.71	73.2	267.2	32.2	-	Brown	No odour	No sheen	HydraSleeve™ already deployed from last sampling round
0874	MW237	14/04/2022	1-6	5.20	11/04/2023	6.5	1.961	8.050	6.089	Good	1.80	12664	7.24	21.9	215.9	32.5	Low	Light Brown	No odour	No sheen	Ants nest in monument covering jcap.
0874	MW238	21/04/2022	1-6	4.20	14/04/2023	5.5	1.101	7.006	5.905	Good	2.47	2124	7.71	64.5	258.5	31.3	-	Clear	No odour	No sheen	
0874	MW239	11/04/2023	1-7	1.75	20/04/2023	3.05	2.062	6.508	4.446	Good	2.55	866	6.48	54.6	248.6	23.3	-	Clear	No odour	No sheen	Organic material
0874	MW240	11/04/2023	1-6	5.58	11/04/2023	6.88	1.358	6.561	5.203	Good	1.27	1116	7.82	25	219	32.8	Low	Light Brown	No odour	No sheen	
0874	MW252	13/04/2023	1.5-4	2.73	14/04/2023	4.03	1.695	3.038	1.343	Good	2.54	897	7.29	6.4	200.4	31.6	-	Light Brown	No odour	No sheen	Organic material present
0874	MW253	13/04/2023	1.5-4	2.54	14/04/2023	3.84	2.285	4.100	1.815	Good	3.19	7488	7.01	110.4	304.4	30.8	-	Light Brown	No odour	No sheen	Low water level
0874	MW254	21/04/2022	2-7.5	6.18	12/04/2023	7.48	0.613	3.667	3.054	Good	2.00	64444	6.35	61.9	255.9	33.6	-	Clear	No odour	No sheen	
0874	MW256	20/04/2022	1.5-5	3.65	12/04/2023	4.95	0.785	5.562	4.777	Good	3.47	800	6.61	200.8	394.8	31.3	Low	Light Brown	No odour	No sheen	
0874	MW257	21/04/2022	1-4	3.54	12/04/2023	4.84	1.433	5.865	4.432	Good	2.72	1887	7.81	32.9	226.9	32.2	Low	Clear	No odour	No sheen	
0874	MW258	-	1-5	-	-	-	-	-	-	Unable to open well. Bolts damaged and could not be removed.											
0874	MW259	12/04/2023	1.5-5	2.67	14/04/2023	3.97	1.978	4.664	2.686	Good	2.71	4782	7.25	24.7	218.7	32.5	-	Clear	No odour	No sheen	
0874	MW260	20/04/2022	1.5-5.1	3.62	12/04/2023	4.92	1.827	4.312	2.485	Good	2.72	4397	7.38	81	275	33.2	-	Light Brown	No odour	No sheen	
0874	MW261	14/04/2022	4.2-10.2	8.00	13/04/2023	9.3	7.59	16.498	8.908	Good	2.85	600	5.87	174.6	368.6	28.8	-	Clear	No odour	No sheen	
0874	MW262	12/04/2023	1.5-5.5	4.02	14/04/2023	5.32	1.31	3.643	2.333	Good	1.94	76421	5.59	48.8	242.8	31.9	-	Clear	No odour	No sheen	
0874	MW263	13/04/2023	1.5-4	2.27	21/04/2023	3.57	0.853	3.939	3.086	Good	2.34	436.5	6.56	15.5	209.5	29.9	-	Clear	No odour	No sheen	
0874	MW264	13/04/2023	1.5-6	3.86	21/04/2023	5.16	1.156	3.190	2.034	Good	1.00	9983	7.09	-148.1	45.9	28.5	-	Clear	No odour	No sheen	Organic material
0874	MW266	14/04/2022	1.5-5	3.75	11/04/2023	5.05	1.238	3.228	1.990	Good	1.15	2929	6.99	-138.1	55.9	30.4	Medium	Light Brown	Slight Organic Odour	No sheen	
0874	MW267	11/04/2023	1.5-5	3.40	20/04/2023	4.7	1.783	4.134	2.351	Good	0.58	4201	6.6	-173.9	20.1	27.5	-	Green	Organic Odour	No sheen	
0874	MW268	20/04/2022	1.5-4.9	3.64	12/04/2023	4.94	1.862	3.626	1.764	Good	2.34	1773	6.51	-119.3	74.7	29.8	Low	Black / Grey	Organic Odour	No sheen	
0874	MW269	14/04/2022	1.5-5	3.74	13/04/2023	5.04	2.062	5.456	3.394	Good	-	-	-	-	-	-	-	Clear	No odour	No sheen	
0874	MW270	20/04/2022	1.5-5	4.17	12/04/2023	5.47	0.899	5.019	4.120	Good	2.53	13000	6.54	32.9	226.9	31.1	Low	Clear	No odour	No sheen	
0874	MW301	13/04/2023	2-5	2.27	21/04/2023	3.57	2.193	3.940	1.747	Good	1.15	1040	7.48	-73.1	120.9	28.9	-	Light Grey	No odour	No sheen	
0874	MW467	14/04/2023	NA	3.63	25/04/2023	4.93	2.716	3.494	0.778	Good	1.97	375.3	7.45	-49	145	29.1	Low	Clear	No odour	No sheen	
0874	MW471	13/04/2023	NA	2.88	25/04/2023	4.18	2.368	NA	NA	Good	4.00	730	7.51	-41.6	152.4	28.8	Medium	Light Grey	No odour	No sheen	

NA - Well construction details are not available in ESdat for some wells
 mbtoc - metres below top of casing
 TOC - top of casing
 mAHD - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - Microsiemens per centimetre
 mV - millivolt
 °C - degrees Celsius
 "-" denotes no data recorded/data lost

T3: Groundwater PFAS Analytical Results

		Per- and Poly-fluoroalkyl Substances																														
		4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EFOFA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EFOFAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EFOFE)	Perfluorooctane sulfonamide (FOFA)	N-Methyl perfluorooctane sulfonamide (MeFOFA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOFAA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOFE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDoDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHps)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHsS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHsS and PFOS	Sum of PFAS	
EQL		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Drinking Water																																
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																

Location ID	Sample ID	Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOFA	EFOFAA	EFOFE	FOFA	MeFOFA	MeFOFAA	MeFOFE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHps	PFHxA	PFHsS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFHsS and PFOS	Sum of PFAS		
MW216	0874 MW216 230421	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	0.33	0.33		
MW217	0874 MW217 230421	21/04/2023	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.06		
MW218	0874 MW218 230425	25/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.31	1.08	7.44	0.13	0.23	<0.05	<0.02	<0.02	<0.02	2.4	0.1	9.84	12
MW219	0874 MW219 230420	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02		
MW220	0874 MW220 230420	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW221	0874 MW221 230421	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.39	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.59	0.93	
MW225	0874 MW225 230420	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.23	0.01	0.33	0.4	
MW231	0874 MW231 230411	11/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW233	0874 MW233 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW236	0874 MW236 230412	12/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW237	0874 MW237 230411	11/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW238	0874 MW238 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.04		
MW239	0874 MW239 230420	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02		
MW240	0874 MW240 230411	11/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	0.14	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.09	0.27	
MW252	0874 MW252 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW253	0874 MW253 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.05	0.05	
MW254	0874 MW254 230412	12/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
MW256	0874 MW256 230412	12/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	0.04	0.09	0.16	
MW257	0874 MW257 230412	12/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.08	0.12	
MW259	0874 MW259 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.14	0.21	
MW260	0874 MW260 230412	12/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02	
MW261	0874 MW261 230413	13/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04	
MW262	0874 MW262 230414	14/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.09	0.44	1.69	0.09	0.16	<0.05	<0.02	<0.02	<0.02	0.38	0.29	2.07	3.51
MW263	0874 MW263 230421	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.1	0.01	0.21	0.28
MW264	0874 MW264 230421	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.17	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.64	0.03	0.09	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.7	1.12
MW266	0874 MW266 230411	11/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<															

T4: Surface Water Field Parameters

Property ID	Sample ID	Field ID	Sampling Event	Sample Date	DO (mg/L)	EC (µS/cm)	pH	En/Redox (mV)	Corrected Redox (mV)	Temp (C)	Turbidity	Water Colour	Odour	Sheen	Comments
On-Base															
Boble River/Louis Creek/Town Common															
0874	SW013	0874_SW013_230420	Wet Season	20/04/2023	6.23	2260	6.77	66.9	280.9	29.8	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW014	0874_SW014_230417	Rainfall Event	17/04/2023	4.66	2004	7.01	62.8	263.7	26.6	Low	-	No odour	No sheen	
0874	SW014	0874_SW014_230418	Rainfall Event	18/04/2023	2.29	308.3	7.04	71.5	265.5	26.3	Low	-	No odour	No sheen	
0874	SW014	0874_SW014_230419	Rainfall Event	19/04/2023	2.65	409.9	6.98	95.1	289.1	27.4	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW014	0874_SW014_230420	Rainfall Event	20/04/2023	2.05	514	6.78	96.6	252.6	27.8	Clear	-	No odour	No sheen	
0874	SW016	0874_SW016_230421	Rainfall Event	21/04/2023	2.19	618.3	6.71	82.3	276.3	27.9	Low	-	No odour	No sheen	
0874	SW016	0874_SW016_230417	Rainfall Event	17/04/2023	2.19	8.3	5.96	-7.7	186.3	29	Low	Light Olive Brown 2.5Y 5/4	Organic Odour	BioSheen Appearance	
0874	SW016	0874_SW016_230418	Rainfall Event	18/04/2023	1.72	1119	6.2	-18.9	109.1	28.9	Turbid	Dark Reddish Brown 5YR 3/3	Organic Odour	BioSheen Appearance	
0874	SW016	0874_SW016_230419	Rainfall Event	19/04/2023	1.33	136	6.2	-1.8	22.6	32.2	Turbid	Dark Reddish Brown 5YR 3/3	Organic Odour	BioSheen Appearance	
0874	SW016	0874_SW016_230420	Rainfall Event	20/04/2023	2.89	2602	6.25	-124.1	69.9	30.8	Medium	Light Olive Brown 2.5Y 5/4	Organic Odour	BioSheen Appearance	
0874	SW019	0874_SW019_230421	Rainfall Event	21/04/2023	1.4	2240	6.17	-146.8	47.2	32.8	Turbid	Dark Brown 7.5YR 3/2	Organic Odour	No sheen	
0874	SW019	0874_SW019_230420	Wet Season	21/04/2023	-	-	-	-	-	-	-	-	-	-	-
0874	SW112	0874_SW112_230417	Rainfall Event	17/04/2023	7.33	947	6.86	156.7	350.7	28.7	Clear	-	No odour	No sheen	
0874	SW112	0874_SW112_230418	Rainfall Event	18/04/2023	7.18	916	7.2	77.5	271.5	29.2	Clear	-	No odour	No sheen	
0874	SW112	0874_SW112_230419	Rainfall Event	19/04/2023	7.18	998	7.26	58	262.9	31.2	Clear	-	No odour	No sheen	
0874	SW112	0874_SW112_230420	Rainfall Event	20/04/2023	7.21	1128	7.29	92.4	286.2	30.6	Clear	-	No odour	No sheen	
0874	SW112	0874_SW112_230421	Rainfall Event	21/04/2023	7.29	1166	7.27	75.2	269.2	30.7	Clear	-	No odour	No sheen	
0874	SW128	0874_SW128_230417	Rainfall Event	17/04/2023	6.15	2393	6.86	82.1	261.3	27.2	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW128	0874_SW128_230418	Rainfall Event	18/04/2023	4.45	275.5	7.37	76.3	270.3	27.3	Low	-	No odour	No sheen	
0874	SW128	0874_SW128_230419	Rainfall Event	19/04/2023	4.77	440.5	6.95	95.6	289.6	31.8	Clear	-	No odour	No sheen	
0874	SW128	0874_SW128_230420	Rainfall Event	20/04/2023	3.96	633	6.83	107.3	301.3	29.8	Clear	-	No odour	No sheen	
0874	SW128	0874_SW128_230421	Rainfall Event	21/04/2023	4.28	775	7.04	91.2	285.2	30.2	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW128	0874_SW128_230417	Rainfall Event	17/04/2023	7.05	6.7	6.7	126.3	320.3	27.5	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW128	0874_SW128_230418	Rainfall Event	18/04/2023	11.42	708	8.61	68.8	278.3	28.3	Clear	-	No odour	No sheen	
0874	SW128	0874_SW128_230419	Rainfall Event	19/04/2023	12.53	1258	9.38	37.4	251.4	36	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW128	0874_SW128_230420	Rainfall Event	20/04/2023	10.15	1078	7.51	107.9	301.9	30.4	Low	-	No odour	No sheen	
0874	SW128	0874_SW128_230421	Rainfall Event	21/04/2023	10.58	2393	7.93	82.9	282.7	33.8	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW128	0874_SW128_230420	Wet Season	20/04/2023	10.49	2813	7.51	55.8	249.8	29.9	Clear	-	No odour	No sheen	
0874	SW131	0874_SW131_230417	Rainfall Event	17/04/2023	7.95	608	6.08	29	223	28.1	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW131	0874_SW131_230418	Rainfall Event	18/04/2023	2.4	1086	6.51	-72.3	121.7	26.1	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW131	0874_SW131_230419	Rainfall Event	19/04/2023	1.86	899	6.75	-106.9	87.5	27.6	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW131	0874_SW131_230420	Rainfall Event	20/04/2023	2.12	1156	6.9	-121.4	72.6	27.9	Clear	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874	SW131	0874_SW131_230421	Rainfall Event	21/04/2023	1.72	1166	6.64	-109.8	64.1	30.6	Low	Dark Brown 7.5YR 3/2	Organic Odour	No sheen	
Mundy Creek															
0874	SW001	0874_SW001_230420	Wet Season	20/04/2023	8.77	4196	7.73	112.7	306.7	31	Clear	-	No odour	No sheen	
0874	SW010	0874_SW010_230417	Rainfall Event	17/04/2023	6.47	214.9	7.03	121.4	315.4	28.5	Clear	-	No odour	No sheen	
0874	SW010	0874_SW010_230418	Rainfall Event	18/04/2023	6.02	758	7.21	89.1	293.1	27.9	Clear	-	Slight Organic Odour	No sheen	
0874	SW010	0874_SW010_230419	Rainfall Event	19/04/2023	5.11	1202	7.41	58.5	252.5	30.7	Clear	-	No odour	No sheen	
0874	SW010	0874_SW010_230420	Rainfall Event	20/04/2023	2.97	1580	7.35	72.2	286.2	29.4	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW010	0874_SW010_230421	Rainfall Event	21/04/2023	3.01	1995	7.37	81.3	275.3	29.7	Clear	-	No odour	No sheen	
0874	SW121	0874_SW121_230418	Rainfall Event	18/04/2023	2.78	712	6.61	-5.7	183.3	26.2	Clear	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	BioSheen Appearance	
0874	SW121	0874_SW121_230419	Rainfall Event	19/04/2023	2.5	1092	6.39	-7.8	186.2	30	Medium	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW121	0874_SW121_230420	Rainfall Event	20/04/2023	6.33	284	6.24	28.4	266.4	26.6	Medium	Light Olive Brown 2.5Y 5/4	No odour	No sheen	slight organic content
0874	SW121	0874_SW121_230421	Rainfall Event	21/04/2023	2.93	963	6.37	43.9	257.9	30	Medium	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	BioSheen Appearance	
0874	SW121	0874_SW121_230422	Rainfall Event	22/04/2023	2.4	1008	6.35	48.3	109.7	26.5	Medium	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	BioSheen Appearance	
0874	SW132	0874_SW132_230417	Rainfall Event	17/04/2023	8.81	237.8	7.96	34.7	282.7	30.7	Clear	-	No odour	No sheen	
0874	SW132	0874_SW132_230418	Rainfall Event	18/04/2023	14.42	1607	8.79	66.2	260.2	28.3	Clear	-	No odour	No sheen	
0874	SW132	0874_SW132_230419	Rainfall Event	19/04/2023	13.34	2950	8.89	33.8	227.8	33	Clear	-	No odour	No sheen	
0874	SW132	0874_SW132_230420	Rainfall Event	20/04/2023	13.75	3081	8.92	68.8	282.8	33.1	Medium	-	No odour	No sheen	
0874	SW132	0874_SW132_230421	Rainfall Event	21/04/2023	14.5	3004	8.97	49.3	243.3	31.6	Clear	-	No odour	No sheen	
Three Mile Creek															
0874	SW102	0874_SW102_230417	Rainfall Event	17/04/2023	6.36	347.3	6.67	45.5	239.5	27.4	Turbid	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW102	0874_SW102_230418	Rainfall Event	18/04/2023	6.75	1159	6.74	40.7	234.7	27.5	Medium	Light Olive Brown 2.5Y 5/4	No odour	BioSheen Appearance	
0874	SW102	0874_SW102_230419	Rainfall Event	19/04/2023	7.7	1688	6.96	21.1	215.1	30.9	Clear	-	No odour	No sheen	
0874	SW102	0874_SW102_230420	Rainfall Event	20/04/2023	8.19	2693	7.22	52.4	286.4	29.9	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW102	0874_SW102_230421	Rainfall Event	21/04/2023	8.64	3161	7.02	16.6	110.2	31.7	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
Off-Base															
Boble River/Louis Creek/Town Common															
0874	SW017	0874_SW017_230417	Rainfall Event	17/04/2023	7.56	2.4	7.02	52.5	246.5	25.1	Turbid	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW017	0874_SW017_230418	Rainfall Event	18/04/2023	3.44	531	6.92	88.3	282.3	27.5	Clear	-	No odour	No sheen	
0874	SW017	0874_SW017_230419	Rainfall Event	19/04/2023	3.56	945	7.07	82	276	28.6	Clear	-	No odour	No sheen	
0874	SW017	0874_SW017_230420	Rainfall Event	20/04/2023	3.66	1092	7.06	100	284	29.2	Clear	-	No odour	No sheen	
0874	SW017	0874_SW017_230421	Rainfall Event	21/04/2023	3.43	1688	7.02	87.8	281.8	27.8	Clear	-	No odour	No sheen	
0874	SW021	0874_SW021_230503	Wet Season	3/05/2023	8.52	4537	7.86	77.8	271.6	30.1	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW110	0874_SW110_230503	Wet Season	3/05/2023	6.1	1850	6.83	179.1	315.1	25.6	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW111	0874_SW111_230503	Wet Season	3/05/2023	7.19	3806	7.95	3.9	197.9	30.2	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW120	0874_SW120_230503	Wet Season	3/05/2023	4.36	2963	7.22	50.2	244.2	29.5	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW127	0874_SW127_230418	Rainfall Event	17/04/2023	6.23	418.5	6.62	101.3	325.3	27.6	Clear	-	No odour	No sheen	beam observed at discharge point from concrete lined drain
0874	SW127	0874_SW127_230419	Rainfall Event	18/04/2023	2.66	684	6.59	32.8	286.8	28.4	Clear	-	No odour	No sheen	
0874	SW127	0874_SW127_230419	Rainfall Event	19/04/2023	2.38	2209	6.38	10.4	204.4	27.8	Clear	-	No odour	No sheen	
0874	SW127	0874_SW127_230420	Rainfall Event	20/04/2023	4.12	2816	6.8	-8.8	184.2	25.2	Low	Light Olive Brown 2.5Y 5/4	No odour	BioSheen Appearance	
0874	SW127	0874_SW127_230421	Rainfall Event	21/04/2023	1.73	4075	6.68	-96.2	97.8	24.7	Low	Light Olive Brown 2.5Y 5/4	No odour	BioSheen Appearance	
0874	SW128	0874_SW128_230418	Rainfall Event												

T4: Surface Water Field Parameters

Property ID	Sample ID	Field ID	Sampling Event	Sample Date	DO (mg/L)	EC (µS/cm)	pH	EH/Redox (mV)	Corrected Redox (mV)	Temp (°C)	Turbidity	Water Colour	Odour	Sheen	Comments
0874	SW204	0874_SW204_230411	Wet Season	11/04/2023	6.33	50466	7.75	80.4	274.4	32	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW205	0874_SW205_230411	Wet Season	11/04/2023	4.17	4860	7.21	109	303	31.5	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW206	0874_SW206_230411	Wet Season	11/04/2023	5.9	13287	7.33	119.7	313.7	32.3	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874	SW207	0874_SW207_230411	Wet Season	11/04/2023	6.76	30170	7.49	119.9	313.9	32.5	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
Mundy Creek															
0874		0874_SW108_230418	Rainfall Event	18/04/2023	6.32	16335	7.42	90.4	284.4	28.3	Medium	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW108_230419	Rainfall Event	19/04/2023	10.01	13541	8.39	52.8	246.6	30.6	Clear	-	No odour	No sheen	
0874		0874_SW108_230420	Rainfall Event	20/04/2023	10.21	10931	8.29	70.2	264.2	32.3	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW108_230421	Rainfall Event	21/04/2023	9.02	6285	8.2	56.3	250.3	30.6	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW108_230422	Rainfall Event	22/04/2023	8.76	8166	7.83	40.8	234.6	31.4	Clear	-	No odour	No sheen	
0874		0874_SW108_230418	Rainfall Event	18/04/2023	5.47	43090	7.33	109	294	27.3	Low	-	No odour	No sheen	
0874		0874_SW108_230419	Rainfall Event	19/04/2023	6.95	27263	7.4	72.1	266.1	29.1	Clear	-	No odour	No sheen	
0874		0874_SW108_230420	Rainfall Event	20/04/2023	7	20180	7.37	80.2	264.2	28.4	Low	-	No odour	No sheen	
0874		0874_SW108_230421	Rainfall Event	21/04/2023	7.34	19019	7.55	84.1	278.1	27.8	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW108_230422	Rainfall Event	22/04/2023	6.56	34772	7.47	69.9	263.9	27	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW113_230503	Wet Season	3/05/2023	4.9	3447	7.24	15.2	209.2	27.7	Clear	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874		0874_SW114_230422	Wet Season	22/04/2023	4.69	25332	6.5	66.6	260.9	31.3	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW115_230418	Rainfall Event	18/04/2023	4.85	32750	6.79	133.4	327.4	27.4	Clear	-	No odour	No sheen	
0874		0874_SW115_230419	Rainfall Event	19/04/2023	6.02	12245	6.9	64.3	258.3	28.6	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW115_230420	Rainfall Event	20/04/2023	6.96	10676	7.03	81.8	275.8	29.4	Low	-	No odour	No sheen	
0874		0874_SW115_230421	Rainfall Event	21/04/2023	7.77	9579	7.33	55.8	249.8	30.6	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW115_230422	Rainfall Event	22/04/2023	7.66	12252	7.19	50.5	244.5	28	Low	-	No odour	No sheen	
0874		0874_SW116_230418	Rainfall Event	18/04/2023	5	38369	7.11	119.3	313.3	27.4	Clear	-	No odour	No sheen	
0874		0874_SW116_230419	Rainfall Event	19/04/2023	6	23579	6.98	58.7	252.7	30.5	Clear	-	No odour	No sheen	
0874		0874_SW116_230420	Rainfall Event	20/04/2023	6.45	16560	7	89.5	283.5	29.4	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW116_230421	Rainfall Event	21/04/2023	6.66	16078	7.12	78.7	273.7	28.6	Low	Light Olive Brown 2.5Y 5/4	Organic Odour	No sheen	
0874		0874_SW116_230422	Rainfall Event	22/04/2023	5.08	25587	7.02	69.9	253.9	28.8	Clear	-	No odour	No sheen	
0874		0874_SW117_230418	Rainfall Event	18/04/2023	3.59	485.7	6.57	207.3	401.3	25.7	Clear	-	No odour	No sheen	
0874		0874_SW117_230419	Rainfall Event	19/04/2023	3.77	2589	6.68	8.8	202.3	30.5	Clear	-	No odour	No sheen	
0874		0874_SW117_230420	Rainfall Event	20/04/2023	8.51	3074	8.41	62.5	246.5	30.7	Clear	-	No odour	No sheen	
0874		0874_SW117_230421	Rainfall Event	21/04/2023	8.69	3600	8.68	9.2	203.2	30.9	Clear	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW117_230422	Rainfall Event	22/04/2023	8.59	3490	8.21	7.1	201.1	29.2	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
0874		0874_SW118_230418	Rainfall Event	18/04/2023	3.85	3118	6.39	177.5	371.5	25.7	Clear	-	No odour	No sheen	
0874		0874_SW118_230419	Rainfall Event	19/04/2023	3.68	3753	6.83	57.6	251.6	29.3	Clear	-	No odour	No sheen	
0874		0874_SW118_230420	Rainfall Event	20/04/2023	4.73	4062	6.97	77.6	271.6	28.4	Clear	-	No odour	No sheen	
0874		0874_SW118_230421	Rainfall Event	21/04/2023	5.45	4941	7.21	32.2	236.2	29.5	Low	Light Olive Brown 2.5Y 5/4	Slight Organic Odour	No sheen	
0874		0874_SW118_230422	Rainfall Event	22/04/2023	4.14	5309	7.18	18.8	212.8	28.2	Turbid	Dark Brown 7.5YR 3/2	No odour	No sheen	
0874		0874_SW119_230422	Wet Season	22/04/2023	-	-	-	-	-	-	-	-	-	-	
0874		0874_SW208_230422	Wet Season	22/04/2023	5.72	35183	6.87	9.7	203.7	31.2	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	
Three Mile Creek															
0874	SW107	0874_SW107_230503	Wet Season	3/05/2023	8.14	3878	7.81	-13.5	180.5	27.6	Low	Light Olive Brown 2.5Y 5/4	Sheen eggs small (sulphur)	No sheen	
0874	SW210	0874_SW210_230422	Wet Season	22/04/2023	5.19	16166	7.32	45.1	236.1	29.1	Low	Light Olive Brown 2.5Y 5/4	No odour	No sheen	

NA - Well construction details are not available in EStar for some wells
 mbtc - metres below top of casing
 TOC - top of casing
 mAHd - metres above Australian Height Datum
 DO - Dissolved Oxygen
 EC - Electrical Conductivity
 Redox - Reduction Oxidation Potential
 Temp - Temperature
 mg/L - milligrams per litre
 µS/cm - microsiemens per centimetre
 mV - millivolt
 °C - degrees Celsius
 ** denotes no data recorded/data lost

T5: Surface Water PFAS Analytical Results

		Per- and Poly-fluoroalkyl Substances																																			
		4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamide (EFOSA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EFOSAA)	N-Ethyl perfluorooctane sulfonamidoethanol (EFOSE)	Perfluorooctane sulfonamide (FOSA)	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluorobutane sulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane sulfonic acid (PFDS)	Perfluorodecanoic acid (PFDDA)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorohexanoic acid (PFHxA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoropentanoic acid (PFPeA)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Sum of PFHxS and PFOS	Sum of PFAS						
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
ECL		0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Interim Marine 95%																																					
PFAS NEMP 2020 Recreational Water																																					
Location ID	Sample ID	Sampling Event	Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFHxS and PFOS	Sum of PFAS					
On Base																																					
Bohle River/Louisa Creek/Town Common																																					
SW013	0874_SW013_230420	Wet season	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.31	0.49					
SW014	0874_SW014_230417	Rainfall Event	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02					
	0874_SW014_230418	Rainfall Event	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02					
	0874_SW014_230419	Rainfall Event	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04					
	0874_SW014_230421	Rainfall Event	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04					
SW016	0874_SW016_230417	Rainfall Event	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.08	0.31	1.28	0.11	0.14	<0.05	<0.02	<0.02	0.03	<0.01	0.04	0.07				
	0874_SW016_230418	Rainfall Event	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.22	<0.8	<0.02	<0.02	<0.02	<0.02	0.06	0.12	0.56	2.45	0.16	0.18	<0.05	<0.02	<0.02	1.53	0.1	3.98	5.38					
	0874_SW016_230419	Rainfall Event	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.68	<0.5	<0.02	<0.02	<0.02	<0.02	0.22	0.49	1.89	8.78	0.39	0.63	<0.06	<0.02	<0.02	5.09	0.38	13.9	18.6					
	0874_SW016_230420	Rainfall Event	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.3	<0.3	<0.02	<0.02	<0.02	<0.02	0.09	0.19	0.84	3.09	0.18	0.23	<0.05	<0.02	<0.02	2.5	0.14	5.59	7.56					
SW019	0874_SW016_230421	Rainfall Event	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.3	<0.02	<0.02	<0.02	<0.02	0.06	0.1	0.5	1.96	0.11	0.15	<0.05	<0.02	<0.02	1.37	0.08	3.33	4.53					
	0874_SW019_230421	Wet Season	21/04/2023	<0.05	<0.23	0.49	<0.05	<0.12	<0.05	<0.12	0.08	<0.12	<0.05	<0.12	1.13	0.4	<0.05	<0.05	<0.05	0.83	0.73	2.75	8.73	0.66	1.07	<0.12	<0.05	<0.05	0.06	14.6	0.72	23.3	32.2				
	0874_SW112_230417	Rainfall Event	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	0.02	0.24	0.43					
	0874_SW112_230418	Rainfall Event	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.02	<0.02	<0.05	<0.02	<0.02	0.15	0.01	0.25	0.32					
SW112	0874_SW112_230419	Rainfall Event	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.26	0.34					
	0874_SW112_230420	Rainfall Event	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.01	0.24	0.29					
	0874_SW112_230421	Rainfall Event	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.01	0.26	0.39					
	0874_SW123_230417	Rainfall Event	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.44	0.1	<0.02	<0.02	<0.02	0.08	0.41	0.65	3.67	0.21	0.58	<0.05	<0.02	<0.02	<0.02	4.67	0.2	8.34	11					
SW123	0874_SW123_230418	Rainfall Event	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	0.1	<0.02	<0.02	<0.02	0.08	0.3	0.81	3	0.17	0.47	<0.05	<0.02	<0.02	<0.02	4.99	0.18	7.99	10.6					
	0874_SW123_230419	Rainfall Event	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.57	0.1	<0.02	<0.02	<0.02	0.1	0.34	0.95	3.54	0.2	0.6	<0.05	<0.02	<0.02	5.54	0.21	9.08	12.2						
	0874_SW123_230420	Rainfall Event	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	1.36	0.3	<0.05	<0.05	<0.05	0.26	0.82	2.2	7.61	0.53	1.32	<0.12	<0.05	<0.05	<0.05	10.6	0.48	18.2	25.5					
	0874_SW123_230421	Rainfall Event	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.11	<0.04	<0.11	<0.04	<0.11	<0.04	1.29	0.4	<0.04	<0.04	<0.04	0.24	0.88	2.15	8.19	0.67	1.33	<0.11	<0.04	<0.04	14.6	0.55	22.8	30.3						
SW125	0874_SW125_230417	Rainfall Event	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	7.19	2	<0.02	0.09	<0.02	0.86	2.2	11.1	26	3.3	5.35	<0.05	<0.02	<0.02	45.8	0.98	71.8	105						
	0874_SW125_230418	Rainfall Event	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	3.68	0.9	<0.02	<0.08	<0.02	0.87	3.48	8.43	27.5	1.75	4.28	<0.05	<0.02	<0.02	50.1	1.23	77.6	102						
	0874_SW125_230419	Rainfall Event	19/04/2023	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	9.45	<2.5	<0.5	<0.5	<0.5	2.05	3.3	18.8	56.3	3.95	9.7	<1.25	<0.5	<0.5	<0.5	176	2.3	232	282					
	0874_SW125_230420	Rainfall Event	20/04/2023	<0.24	<0.24	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	<0.24	<0.59	7.6	2	<0.24	<0.24	<0.24	1.66	2.42	16.7	45.1	3.3	8.14	<0.59	<0.24	<0.24	75.3	1.71	120	164						
SW126	0874_SW125_230421	Rainfall Event	21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.1	<0.04	<0.1	<0.04	<0.1	<0.04	3.41	0.5	<0.04	<0.04	<0.04	0.59	1.28	6.96	17.6	1.37	3.57	<0.1	<0.04	<0.04	23.4	0.65	41	59.3						
	0874_SW126_230420	Wet Season	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.9	0.2	<0.02	<0.02	<0.02	<0.07	0.11	1.35	1.94	0.32														

T6: Sediment Observations

Property ID	Location ID	Sample Date	Sample Description	Odour
On-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD013	20/04/2023	Silty SAND, loose, black, fine subangular grained, black fine silt, saturated. Wetland grass/organic matter present.	Organic
0874	SD014	21/04/2023	CLAY, light brown, medium plasticity, firm, subangular gravel, saturated. Moss/roots present.	No odour
0874	SD016	21/04/2023	SILT, loose, black, trace yellow sands, coarse, subangular, saturated. Wetland grass present.	Strong Organic
0874	SD019	21/04/2023	CLAY, light grey, medium plasticity, trace coarse sands, saturated. Snails present.	No odour
0874	SD112	21/04/2023	CLAY, light grey, medium plasticity, firm, saturated. Grass/roots present.	No odour
0874	SD123	21/04/2023	CLAY, light grey, medium plasticity, subangular pebbles	No odour
0874	SD125	21/04/2023	Sandy CLAY, dark grey, low plasticity, trace coarse sands, saturated. Algae present.	Moderate Organic
0874	SD126	20/04/2023	Silty SAND, loose, brown, fine subangular grained, fine silt, saturated. Wetland grass/organic matter present.	No odour
0874	SD131	21/04/2023	CLAY, dark grey, high plasticity, firm, saturated. Wetland grass present.	Moderate Organic
Mundy Creek				
0874	SD001	20/04/2023	Silty SAND, loose, yellow, coarse subangular grained, black fine silt, saturated. Algae/roots present.	No odour
0874	SD010	21/04/2023	Silty SAND, loose, yellow, coarse subangular, dark brown, fine, saturated. Grass/Roots present.	No odour
0874	SD121	21/04/2023	SILT, loose, black, saturated. Grass present.	Weak Organic
0874	SD132	21/04/2023	CLAY, medium plasticity, dark brown, loose, saturated. Roots present.	Weak Organic
Three Mile Creek				
0874	SD102	21/04/2023	SILT, loose, black, saturated. Roots/Grass present.	Weak Organic
Off-Base				
Bohle River/Louisa Creek/Town Common				
0874	SD017	21/04/2023	Silty SAND, loose, yellow, coarse grained, dark brown silt, saturated. Grass/Roots present.	No odour
0874	SD021	3/05/2023	Sandy CLAY, very soft, dark grey, low plasticity, fine grained sand, saturated. Root matter present.	No odour
0874	SD110	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated. Organic matter leaves/branches present.	No odour
0874	SD111	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated. Organic matter leaves/branches present.	No odour
0874	SD120	3/05/2023	Clayey SAND, very loose, dark grey, fine to medium subangular grained, saturated	No odour
0874	SD127	21/04/2023	SAND, black, loose, coarse, subangular pebbles, saturated	No odour
0874	SD129	21/04/2023	CLAY, loose, dark brown, low plasticity, saturated	No odour
0874	SD201	3/05/2023	SAND, very loose, brown, fine to coarse grained, subangular, saturated	No odour
0874	SD202	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
0874	SD203	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
0874	SD204	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
0874	SD205	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
0874	SD206	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
0874	SD207	11/04/2023	CLAY, soft, grey, with small to medium sized subangular grained sand, moist	No odour
Mundy Creek				
0874	SD108	21/04/2023	SILT, black, loose, saturated, coarse yellow sands, trace Leaves/Grass present.	Strong Organic
0874	SD109	21/04/2023	Sandy CLAY, dark grey/black, medium plasticity, firm, yellow coarse sands, saturated. Shells present.	Moderate Organic
0874	SD113	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated. Organic matter leaves/branches present.	No odour
0874	SD114	22/04/2023	CLAY, dark brown/black, high plasticity, firm, saturated. Leaves/Roots present.	Moderate Organic
0874	SD115	21/04/2023	CLAY, dark brown/black, medium plasticity, saturated, loose. Roots/Leaves present.	Moderate Organic
0874	SD116	21/04/2023	SAND, black, coarse, loose, saturated, subangular pebble inclusions. Roots present.	Moderate Organic
0874	SD117	21/04/2023	SILT, loose, dark brown, saturated. Leaves/Roots present.	No odour
0874	SD118	21/04/2023	CLAY, light grey, moderate plasticity, saturated, loose. Grass present.	No odour
0874	SD119	22/04/2023	SAND, dark brown, coarse, loose, subangular pebble inclusions, saturated. Leaves present.	No odour
0874	SD208	22/04/2023	SAND, light brown/yellow, coarse, subangular pebble inclusions, saturated. Shells present.	No odour
Three Mile Creek				
0874	SD107	3/05/2023	Silty CLAY, very soft, black, low, plasticity, saturated. Organic matter leaves/branches present.	No odour
0874	SD210	22/04/2023	CLAY, light grey/black, firm, high plasticity, saturated	Slight Organic

T8: Historical Groundwater PFAS Analytical Results

Units	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	220		
PFAS NEMP 2020 Drinking Water																											0.56	0.07		

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Sub-Management Area One	30/06/2017	<0.05	0.72	0.07	<0.05	<0.05	<0.02	<0.05	0.3	<0.05	<0.02	<0.05	25.2	8.2	0.04	0.13	<0.02	6.59	10.2	63	128	9.83	19	<0.05	<0.02	<0.02	0.17	649	30.7	777	951
	27/07/2017	<0.10	2.07	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	8.01	2.8	<0.10	<0.10	<0.10	4.3	3.51	15.8	39.5	3.49	11	<0.25	<0.10	<0.10	<0.10	92.1	6.06	132	189
	17/08/2017	<0.05	5.39	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	9.65	3.2	<0.02	<0.02	<0.02	7.09	11.1	29.2	45.1	8.68	11.4	<0.05	<0.02	<0.02	0.07	127	8.57	172	266
	17/04/2018	<0.05	4	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.9	8.1	<0.02	<0.02	<0.02	10.4	12.1	49.8	71.7	9.7	20	<0.05	<0.02	<0.02	0.08	268	13.6	340	485
	18/12/2018	<0.020	4.78	0.048	<0.020	<0.050	<0.0200	<0.050	0.022	<0.050	<0.0200	<0.050	25	1.63	0.022	<0.0200	<0.0200	16.5	16.7	89.2	102	18.2	22	<0.0500	<0.0200	<0.0200	0.268	240	17.8	342	554
	2/05/2019	<0.05	2.14	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	11.1	<0.1	<0.02	<0.02	<0.02	6.2	11.4	29.6	48.5	1.02	13.3	<0.05	<0.02	<0.02	0.06	170	10.1	218	303
	15/10/2019	<0.05	5.35	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	17.4	4.6	<0.02	<0.02	<0.02	8.69	8.9	51.6	74.2	10.5	14.5	<0.05	<0.02	<0.02	0.11	216	13.8	290	426
	28/04/2020	<0.05	3.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	15.2	0.6	<0.02	<0.02	<0.02	8.3	11.3	46.3	65.5	8.48	14.8	<0.05	<0.02	<0.02	0.13	227	12.1	292	413
	10/09/2020	<0.18	2.1	<0.18	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	<0.18	<0.44	10.4	5.2	<0.18	<0.18	<0.18	6.09	5.74	32.1	45.7	6.92	9.86	<0.44	<0.18	<0.18	<0.18	130	9.54	176	264
	6/05/2021	<0.5	3.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15	7.1	<0.5	<0.5	<0.5	9.05	7.75	46.1	63	9.65	15.4	<1.25	<0.5	<0.5	<0.5	186	12.8	249	376
	11/10/2021	<0.5	4.31	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17.9	9.1	<0.5	<0.5	<0.5	11	11	55.2	72.8	11.4	17.5	<1.24	<0.5	<0.5	<0.5	248	16.2	321	474
	22/04/2022	<0.5	4.6	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	20.8	10.6	<0.5	<0.5	<0.5	12.2	11.2	66.9	83	13.7	20.6	<1.25	<0.5	<0.5	<0.5	305	19.6	388	568
	19/10/2022	<0.08	4.57	<0.08	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	<0.08	<0.2	18.8	45	<0.08	<0.08	<0.08	11.8	17	66.4	84.3	12.4	19.4	<0.2	<0.08	<0.08	<0.08	59.9	18.4	144	358
	MW013	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	27.4	5.6	<0.02	0.08	<0.02	3.33	2.63	32.9	74.4	4.62	20	<0.05	<0.02	<0.02	<0.02	83.4	6.54	158	261
		27/07/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	38.9	8.2	<0.10	<0.10	<0.10	14.7	5.21	56.3	111	13	40.8	<0.25	<0.10	<0.10	<0.10	103	17.1	214
15/08/2017		<0.05	0.09	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	0.03	54.4	16.5	<0.02	0.07	<0.02	20.9	10.5	112	169	21.7	48.2	<0.05	<0.02	<0.02	0.1	147	28	316	628
17/04/2018		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.03	<0.05	<0.02	<0.05	0.03	12.1	3.8	<0.02	0.12	<0.02	4.19	2.62	22.1	34.6	4.22	9.27	<0.05	<0.02	<0.02	0.02	48.6	5.55	83.2	147
18/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.498	<0.050	<0.0200	<0.050	2.17	0.388	0.024	0.782	<0.0200	1.03	1.35	4.97	12.8	1.24	1.91	<0.0500	<0.0200	<0.0200	0.066	72	3.44	84.8	103
2/05/2019		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	0.05	9.43	<0.1	<0.02	0.07	<0.02	3.15	1.98	17.7	29.5	0.45	9.34	<0.05	<0.02	<0.02	<0.02	40.7	5.07	70.2	117
15/10/2019		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.21	<0.05	<0.02	<0.05	0.21	15.9	2.7	<0.02	0.33	<0.02	5.73	3.08	35	59.4	6.07	12.4	<0.05	<0.02	<0.02	0.11	109	8.56	168	258
28/04/2020		<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	8.48	3.1	<0.02	<0.02	<0.02	3.02	2.19	15.2	27.5	3.69	7.5	<0.05	<0.02	<0.02	<0.02	34.2	4.48	61.7	109
11/09/2020		<0.33	<0.33	<0.33	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	<0.33	<0.82	26.5	8.3	<0.33	<0.33	<0.33	9.78	5.37	52.6	81.5	10.9	21.1	<0.82	<0.33	<0.33	<0.33	106	15	188	337
29/04/2021		<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	6.22	2.4	<0.1	<0.1	<0.1	2.43	1.06	12.3	20.1	2.64	5.35	<0.25	<0.1	<0.1	<0.1	27.4	3.43	47.5	83.3
11/10/2021		<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	11.9	4.2	<0.25	<0.25	<0.25	4.65	3.02	25	42.8	5.2	10.7	<0.62	<0.25	<0.25	<0.25	72.5	7.3	115	187
21/04/2022		<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	7.83	2.7	<0.02	<0.02	<0.02	2.52	1.31	15.1	22.9	3.32	6.74	<0.06	<0.02	<0.02	<0.02	18.7	3.58	41.6	84.7
MW116		27/07/2017	<0.05	0.25	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.3	<0.02	<0.02	<0.02	0.2	0.11	0.42	1.2	0.32	0.25	<0.05	<0.02	<0.02	<0.02	5.26	0.3	6.46	8.98
		28/07/2017	<0.05	0.24	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	3.7	<0.02	<0.02	<0.02	0.14	0.07	0.31	0.81	0.28	0.21	<0.05	<0.02	<0.02	<0.02	3.28	0.21	4.09	9.53
		17/08/2017	<0.05	0.28	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.32	<0.1	<0.02	<0.02	<0.02	0.12	0.08	0.44	0.92	0.25	0.2	<0.05	<0.02	<0.02	<0.02	3.23	0.24	4.15	6.08
	17/04/2018	<0.05	0.09	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.05	<0.02	0.18	0.31	0.12	0.07	<0.05	<0.02	<0.02	<0.02	1.29	0.08	1.6	2.41	
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.218	<0.020	<0.0200	<0.0200	<0.0200	0.096	0.222	0.054	0.084	<0.0500	<0.0200	<0.0200	<0.0200	0.232	0.02	0.454	0.926		
	2/05/2019	0.001	0.888	0.081	<0.001	<0.0005	<0.001	0.0005	<0.001	0.0005	<0.001	0.0005	0.584	0.076	0.0044	0.001	<0.0005	0.397	0.198	1.09	2.34	0.47	0.421	<0.0005	<0.0005	<0.000					

T8: Historical Groudwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EiFOSA	EiFOSAA	EiFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW054	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.66	1.6	<0.02	<0.02	<0.02	0.51	1.38	7.87	27.7	1.42	4.75	<0.05	<0.02	<0.02	<0.02	50	1.19	77.7	102			
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	2.59	0.4	<0.02	<0.02	<0.02	0.37	0.4	3.96	16.5	1.11	3.62	<0.05	<0.02	<0.02	<0.02	29.4	0.76	45.9	59.2			
	15/08/2017	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.07	<0.05	<0.02	<0.05	3.93	1.2	<0.02	<0.02	<0.02	0.72	1.18	6.37	16.8	1.43	2.89	<0.05	<0.02	<0.02	0.04	33.7	1.29	50.5	69.7			
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.06	<0.05	<0.02	<0.05	4.92	1.2	<0.02	<0.02	<0.02	0.74	2.05	8.69	32	1.78	5.15	<0.05	<0.02	<0.02	0.04	93.7	1.44	126	152			
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.07	<0.050	<0.0200	<0.050	4.04	<0.020	<0.0200	<0.0200	0.648	1.74	7.71	21.8	1.56	3.71	<0.0500	<0.0200	<0.0200	0.046	56.2	1.48	78	99				
	29/04/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	5.34	<0.5	<0.10	<0.10	0.87	2.48	10.5	31.8	1.05	4.72	<0.25	<0.10	<0.10	<0.10	102	1.96	134	161				
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.11	<0.05	<0.02	<0.05	5.29	1.6	<0.02	<0.02	0.93	2.24	11.1	33.3	2.32	5.06	<0.05	<0.02	<0.02	0.07	87.9	1.96	121	152				
	27/04/2020	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	4.45	<2.5	<0.50	<0.50	0.75	2.4	9.05	30.2	1.9	4.7	<1.25	<0.50	<0.50	<0.50	88	1.65	118	143				
	7/09/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	5.08	1.5	<0.25	<0.25	1	2.5	12	33.4	2.48	4.7	<0.62	<0.25	<0.25	<0.25	88.7	2.15	122	154				
	28/04/2021	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	2.48	<2.4	<0.48	<0.48	0.52	1.24	4.62	15.4	1.33	3.28	<1.19	<0.48	<0.48	<0.48	50.7	1.14	66.1	80.7				
	13/10/2021	<0.47	<0.47	<0.47	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	<0.47	<1.18	5.9	<2.4	<0.47	<0.47	1.32	3.11	13.6	37.4	2.69	5.85	<1.18	<0.47	<0.47	<0.47	124	2.41	161	196				
	21/04/2022	<0.23	<0.23	<0.23	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	<0.23	<0.58	3.69	<1.2	<0.23	<0.23	0.68	2.01	7.61	22.9	1.91	3.99	<0.58	<0.23	<0.23	<0.23	82.8	1.82	106	127				
	11/10/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.38	0.8	<0.1	<0.1	0.62	1.84	9.09	25	1.8	3.55	<0.25	<0.1	<0.1	<0.1	79.4	1.5	104	127				
	26/04/2023	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	2	<0.5	<0.1	<0.1	0.38	1.11	3.77	13.3	0.98	2.21	<0.25	<0.1	<0.1	<0.1	45.9	0.74	59.2	70.4				
	MW055	15/08/2017	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	3.37	<0.05	<0.02	<0.05	14.1	4	<0.02	<0.02	<0.02	4.65	7.31	37.6	96.2	6.56	15	<0.05	<0.02	<0.02	<0.02	194	12.3	290	396		
		16/04/2018	<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.38	0.75	3.36	11.8	0.65	1.4	<0.05	<0.02	<0.02	0.03	39.9	1.07	51.7	61.2		
18/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	0.66	<0.050	<0.0200	<0.050	6.87	0.184	<0.0200	<0.0200	0.245	4.3	23.9	59.3	3.87	8.52	<0.0500	<0.0200	<0.0200	0.206	139	7.54	198	257				
29/04/2019		<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	1.02	<0.25	<0.10	<0.25	5.08	<0.5	<0.10	<0.10	1.65	2.87	13.5	40.7	0.67	5.05	<0.25	<0.10	<0.10	<0.10	122	5.07	163	198				
16/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.88	<0.05	<0.02	<0.05	7.22	2.7	<0.02	<0.02	<0.02	2.5	3.56	22.4	4.32	7.94	<0.05	<0.02	<0.02	0.21	132	7.09	195	254				
27/04/2020		<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	8.75	<2.5	<0.50	<0.50	2.55	3.3	20.9	60.7	4.05	9.65	<1.25	<0.50	<0.50	<0.50	118	7.4	179	235				
7/09/2020		<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.39	<0.61	<0.24	<0.61	9.85	3.1	<0.24	<0.24	3	3.61	25.2	61.5	5.05	8.95	<0.61	<0.24	<0.24	<0.24	109	8.54	170	238				
28/04/2021		<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	6.68	<2.3	<0.45	<0.45	3.27	4.04	20.4	64.4	5.09	11.1	<1.14	<0.45	<0.45	<0.45	170	8.14	234	293				
13/10/2021		<0.5	<0.5	<0.5	<0.5	<1.24	<0.5	<1.24	1.19	<1.24	<0.5	<1.24	9.26	4.2	<0.5	<0.5	3.62	5.55	29	74.5	5.5	10.5	<1.24	<0.5	<0.5	<0.5	200	10	274	353				
21/04/2022		<0.5	<0.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	11.8	3	<0.5	<0.5	3.95	5.2	32	80.4	6.25	12.2	<1.25	<0.5	<0.5	<0.5	196	9.8	276	361				
10/10/2022		<0.53	<0.53	<0.53	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	<0.53	<1.33	8.46	<2.6	<0.53	<0.53	3.14	4.04	25.7	75.9	5.21	9.1	<1.33	<0.53	<0.53	<0.53	153	8.24	229	293				
26/04/2023		<0.24	<0.24	<0.24	<0.24	<0.61	<0.24	<0.61	0.63	<0.61	<0.24	<0.61	4.29	<1.2	<0.24	<0.24	1.27	2.46	10.8	33.1	2.98	4.68	<0.61	<0.24	<0.24	<0.24	94.8	3.71	128	159				
16/08/2017		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.04	<0.05	<0.02	<0.05	256	12.2	<0.02	<0.02	<0.02	81.1	131	822	4,050	33.2	324	<0.05	<0.02	<0.02	0.17	2,310	130	6,360	8,150			
24/01/2018		<0.05	0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	457	26.3	0.11	0.6	<0.02	204	515	1,390	8,520	152	826	<0.05	<0.02	<0.02	0.96	3,280	348	11,800	15,700			
16/04/2018		<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	0.19	<0.12	<0.05	<0.12	127	19.8	0.1	0.33	<0.05	55.4	158	432	3,320	45.9	306	<0.12	<0.05	<0.05	<0.50	1,800	125	5,120	6,510			
16/04/2018		-	-	-	-	-	-	-	<0.50	-	-	-	141	86	<0.50	<0.50	-	58.4	190	976	3,430	91.9	359	-	-	-	0.73	-	146	5,230	7,160			
17/12/2018	<0.200	<0.200	<0.200	<0.200	<0.500	<0.200	<0.500	0.28	<0.500	<0.200	<0.500	177	1.86	<0.200	0.3	<0.200	103	372	558	6,490	51.4	238	<0.500	<0.200	<0.200	1.42	2,770	268	9,260	11,000				
30/04/2019	<0.50	<0.50	<0.50	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	<0.50	<1.25	162	<2.5	<0.50	<0.50	77.2	366	554	4,200	6.5	258	<1.25	<0.50	<0.50	<0.50	3,070	185	7,270	8,880					
16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	167	17.4	0.08	0.34	<0.02	73	241	542	3,910	61.5	252	<0.05	<0.02	<0.02	0.75	2,420	151	6,330	7,840				
27/04/2020	<5.00	<5.00	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	136	<25.0	<5.00	<5.00	58	220	394	3,370	40	224	<12.5	<5.00	<5.00	<5.00	1,700	123	5,070	6,260					
7/09/2020	<5	<5	<5	<5	<12.5	<5	<12.5	<5	<12.5	<5	<12.5	106	<25	<5	<5	49.5	170	372	2,170	44	153	<12.5	<5	<5	<5	1,340	106	3,510	4,510					
28/04/2021	<2.32	<2.32	<2.32	<2.32	<5.81	<2.32	<5.81	<2.32	<5.81	<2.32	<5.81																							

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	0.20				
PFAS NEMP 2020 Drinking Water																											0.56	0.07				
Location ID	Sample Date																															
MW109	29/06/2017	<0.05	3.98	<0.05	<0.05	<0.05	<0.02	<0.05	0.66	<0.05	<0.02	<0.05	153	42.5	<0.02	<0.02	<0.02	9.77	73	252	911	65.4	122	<0.05	<0.02	<0.02	0.09	1,360	68	2,270	3,060	
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.9	0.4	<0.05	<0.05	<0.05	0.46	0.46	3.9	15.4	0.96	2.78	<0.12	<0.05	<0.05	<0.05	22.9	0.92	38.3	50.1	
	15/08/2017	0.07	5	<0.05	<0.05	<0.05	<0.02	<0.05	0.36	<0.05	<0.02	<0.05	89.8	34.5	<0.02	0.03	<0.02	23.6	46.2	199	517	40.4	72.3	<0.05	<0.02	<0.02	0.3	781	46.4	1,300	1,860	
	15/08/2017	0.07	13.8	<0.05	<0.05	<0.12	<0.05	<0.12	0.48	<0.12	<0.05	<0.12	72.1	27.4	<0.05	<0.05	<0.05	22.4	45.6	201	501	35.1	68.3	<0.12	<0.05	<0.05	0.32	765	38.8	1,270	1,790	
	24/01/2018	<0.05	4.56	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.02	<0.05	73.2	48.2	0.04	0.24	<0.05	21.8	54.8	215	583	37.4	67.2	<0.05	<0.02	<0.02	<0.02	1,200	50	1,780	2,380	
	16/04/2018	<0.10	<0.50	<0.10	<0.10	<0.25	<0.10	<0.25	0.25	<0.25	<0.10	<0.25	48.9	25.5	<0.10	<0.10	<0.10	13.2	28.4	127	304	31.3	50.8	<0.25	<0.10	<0.10	0.22	632	33.3	970	1,360	
	16/04/2018	-	6.23	-	-	-	-	-	-	<0.50	-	-	49.6	46.4	-	-	-	17.2	38	220	350	41.2	51.6	-	-	-	<0.50	666	39.8	982	1,460	
	19/12/2018	0.042	6.13	<0.020	<0.020	<0.050	<0.0200	<0.050	0.248	<0.050	<0.0200	<0.050	67.6	3.16	0.03	0.04	<0.0200	20.6	50.7	196	494	33.8	81.3	<0.0500	<0.0200	<0.0200	0.252	683	36.8	1,180	1,670	
	29/04/2019	<0.05	6.22	<0.05	<0.05	<0.12	<0.05	<0.12	0.32	<0.12	<0.05	<0.12	101	0.4	<0.05	0.07	<0.05	21.6	63	279	767	14.9	97.9	<0.12	<0.05	<0.05	0.06	1,340	46	2,110	2,740	
	17/10/2019	<0.10	7.8	0.12	<0.10	<0.25	<0.10	<0.25	0.37	<0.25	<0.10	<0.25	73.5	29.8	<0.10	<0.10	<0.10	22.6	42	195	578	38.1	71	<0.25	<0.10	<0.10	0.29	779	44.4	1,410	1,980	
	27/04/2020	<5.00	6.5	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	60.5	<25.0	<5.00	<5.00	<5.00	12.5	35	127	416	26.5	55	<12.5	<5.00	<5.00	<5.00	668	30.5	1,080	1,440	
	11/09/2020	<1.58	3.01	<1.58	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	<1.58	<3.96	31.7	9.7	<1.58	<1.58	<1.58	8.87	18.7	75.2	216	15.5	27.2	<3.96	<1.58	<1.58	<1.58	348	17.6	564	771	
	29/04/2021	<2	2	<2	<2	<5	<2	<5	<2	<5	<2	<5	18	10	<2	<2	<2	6.6	14.2	48.6	139	9.6	16	<5	<2	<2	<2	404	11.4	543	679	
	13/10/2021	<2.5	14	<2.5	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	<2.5	<6.25	85	40.5	<2.5	<2.5	<2.5	28.8	58.8	260	607	47.5	83	<6.25	<2.5	<2.5	<2.5	1050	53.2	1660	2330	
	21/04/2022	<0.5	4.65	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	33.7	13.4	<0.5	<0.5	<0.5	10.7	19.2	89.2	210	18.1	29	<1.25	<0.5	<0.5	<0.5	454	21.4	664	903	
11/10/2022	<0.25	12.4	<0.4	<0.25	<0.62	<0.25	<0.62	0.8	<0.62	<0.25	<0.62	62	30.8	<0.25	<0.25	<0.25	21.7	55.7	242	572	43.3	72	<0.62	<0.25	<0.25	<0.25	1000	46.8	1570	2160		
26/04/2023	<0.83	12.8	<0.83	<0.83	<2.08	<0.83	<2.08	1	<2.08	<0.83	<2.08	60.2	24.4	<0.83	<0.83	<0.83	22.2	56.2	172	480	38.3	66.7	<2.08	<0.83	<0.83	0.83	1510	45.5	1990	2490		
MW110	15/08/2017	<0.05	1.14	<0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	87.8	30.2	<0.05	0.07	<0.05	16.6	56.8	210	652	51.8	92.6	<0.12	<0.05	<0.05	0.32	747	54.6	1,400	2,000	
	15/08/2017	<0.05	2.64	<0.05	<0.05	<0.12	<0.05	<0.12	0.36	<0.12	<0.05	<0.12	66.7	27.8	0.05	0.12	<0.05	21.1	43.1	212	606	37.4	76.2	<0.12	<0.05	<0.05	0.46	616	36.6	1,220	1,750	
	16/04/2018	<0.10	15	0.54	<0.10	<0.25	<0.10	<0.25	0.81	<0.25	<0.10	<0.25	65.1	17.3	<0.10	<0.10	<0.10	21.6	68.4	135	582	27.7	90.1	<0.25	<0.10	<0.10	0.36	1,420	36.9	2,000	2,480	
	18/12/2018	0.13	16.1	1.03	<0.020	<0.050	<0.0200	<0.050	0.816	<0.050	<0.0200	<0.050	71.6	3.09	0.092	0.226	<0.0200	25	77.5	199	655	34.3	103	<0.0500	<0.0200	<0.0200	0.632	1,160	43.6	1,820	2,390	
	29/04/2019	<0.05	24.6	1.12	<0.05	<0.12	<0.05	<0.12	1.16	<0.12	<0.05	<0.12	97	3	<0.05	0.26	<0.05	25.5	80.9	252	946	11.6	92.4	<0.12	<0.05	<0.05	0.19	2,020	56.5	2,970	3,610	
	17/10/2019	0.16	33.5	1.27	<0.05	<0.12	<0.05	<0.12	2.68	<0.12	<0.05	<0.12	140	39	0.17	0.42	<0.05	46.6	114	361	1,410	68	146	<0.12	<0.05	<0.05	1.09	2,600	98.5	4,010	5,060	
	27/04/2020	<5.00	8	<5.00	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	<5.00	<12.5	33.5	<25.0	<5.00	<5.00	<5.00	7	28.5	75	360	17	36	<12.5	<5.00	<5.00	<5.00	733	23.5	1,090	1,320	
	11/09/2020	<0.32	0.38	<0.32	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	<0.32	<0.79	6.77	1.7	<0.32	<0.32	<0.32	2.35	7.47	17.4	87.9	3.12	7.66	<0.79	<0.32	<0.32	<0.32	139	5.21	227	279	
	29/04/2021	<1	<1	<1	<1	<2.5	<1	<2.5	<1	<2.5	<1	<2.5	2.2	<5	<1	<1	<1	2.2	4.2	15.2	85.7	6.6	3.3	<2.5	<1	<1	<1	109	4.5	195	233	
	13/10/2021	<0.5	2.08	<0.5	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	<0.5	<1.24	17	15.4	<0.5	<0.5	<0.5	5.16	12.7	59.1	168	24.6	16.6	<1.24	<0.5	<0.5	<0.5	257	9.32	425	587	
	21/04/2022	<0.22	<0.22	<0.22	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	<0.22	<0.56	7.64	1.7	<0.22	<0.22	<0.22	2.85	8.88	20.7	108	3.67	10	<0.56	<0.22	<0.22	<0.22	132	6.17	240	302	
	12/10/2022	<0.5	1.5	<0.5	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	<0.5	<1.25	15.6	8.4	<0.5	<0.5	<0.5	6.55	10.8	63	182	17.4	17.4	<1.25	<0.5	<0.5	<0.5	222	10	404	555	
	26/04/2023	<0.45	<0.45	<0.45	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	<0.45	<1.14	5.23	<2.3	<0.45	<0.45	<0.45	4.36	5.86	28.9	131	10.5	7.95	<1.14	<0.45	<0.45	<0.45	114	7.45	245	315	
	MW138	29/06/2017	<0.05	0.28	0.18	<0.05	<0.05	<0.02	<0.05	0.56	<0.05	<0.02	<0.05	18.6	8.4	0.06	0.16	<0.02	1.61	7.4	26.2	146	6	17	<0.05	<0.02	<0.02	0.08	309	4.82	455	546
		29/07/2017	<0.05	0.72	<0.05	<0.05	<0.12	<0.05	<0.12	0.12	<0.12	<0.05	<0.12	33.8	9.8	<0.05	<0.05	<0.05	7.6	7.54	75	413	20	49.6	<0.12	<0.05	<0.05	0.16	426	20.1	839	1,060
15/08/2017		<0.05	3.49	0.05	<0.05	<0.12	<0.05	<0.12	0.14	<0.12	<0.05	<0.12	9.5	3.5	<0.05	<0.05	<0.05	3.35	9.1	25.8	113	6.8	9.8	<0.12	<0.05	<0.05	0.07	178	7.24	291	370	
30/04/2019		<0.05	0.12	0.16	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	3.73	2.1	<0.02	0.03	<0.02	0.88	2.05	8.04	23.8	2.17	4.82	<0.05	<0.02	<0.02	0.05	31.3	1.29	55.1	80.6	
16/10/2019		<0.05	0.16	0.11	<0.05	<0.05	<0.02	<0.05	0.05	<0.05	<0.02	<0.05	6.58	3.3	0.03	<0.02	<0.02	1.52	3.37	14.6	49	4.19										

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP 2020 Drinking Water																											0.13	0.20	0.07			
Location ID	Sample Date																															
MW251	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.5	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.33	1.82	0.1	0.27	<0.05	<0.02	<0.02	<0.02	<0.02	1	0.03	2.82	4.1	
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.49	1.91	0.1	0.24	<0.05	<0.02	<0.02	<0.02	<0.02	1	0.03	2.91	4.25
	28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.29	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.2	1.5	0.07	0.17	<0.06	<0.02	<0.02	<0.02	<0.02	0.26	<0.02	1.76	2.52
	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.1	<0.05	1.18	1.18	
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	0.27	0.4	3.73	10.3	0.67	2.19	<0.25	<0.10	<0.10	<0.10	7.03	0.35	17.3	27.6	
	19/12/2018	-	-	-	-	-	-	-	0.056	-	-	-	9	5.57	-	-	-	1.42	2.85	31.6	47.6	6.37	6.92	-	-	-	0.038	33.6	1.99	75.7	130	
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.34	<0.2	<0.05	<0.05	<0.05	0.2	0.26	3.08	8.04	0.16	1.74	<0.12	<0.05	<0.05	<0.05	3.99	0.23	12	20	
	17/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.56	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.87	1.92	0.15	0.41	<0.25	<0.10	<0.10	<0.10	1.46	<0.10	3.38	5.37	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.21	<0.1	<0.02	<0.02	<0.02	0.04	0.08	0.43	1.77	0.06	0.22	<0.05	<0.02	<0.02	<0.02	0.82	0.06	2.59	3.69	
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.26	0.72	0.04	0.12	<0.05	<0.02	<0.02	<0.02	0.31	0.02	1.03	1.65	
	29/04/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.48	<0.2	<0.05	<0.05	<0.05	0.21	0.27	2.34	6.76	0.4	1.2	<0.12	<0.05	<0.05	<0.05	1.75	0.24	8.51	14.6	
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.18	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.3	0.36	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.25	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.18	<0.01	0.43	0.54	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.28	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.3	<0.01	0.58	0.71	
28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.37	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.56	1.8	0.1	0.33	<0.06	<0.02	<0.02	1.44	0.06	3.24	4.79		
Sub-Management Area Three																																
MW009	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.44	<0.05	<0.02	<0.05	1.52	0.2	<0.02	<0.02	<0.02	0.24	0.73	2.54	9.94	0.3	1.4	<0.05	<0.02	<0.02	<0.02	18.8	0.8	28.7	36.9		
	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.12	<0.05	<0.02	<0.05	0.82	0.1	<0.02	<0.02	<0.02	0.2	0.23	1.52	7.77	0.37	1.25	<0.05	<0.02	<0.02	<0.02	12.7	0.62	20.5	25.7		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.32	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.26	0.64	2.1	9.31	0.41	1.26	<0.05	<0.02	<0.02	<0.02	11.3	0.97	20.6	27.7		
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.14	<0.12	<0.05	<0.12	0.7	<0.2	<0.05	<0.05	<0.05	0.18	0.37	1.36	5.43	0.24	0.63	<0.12	<0.05	<0.05	<0.05	10	0.52	15.4	19.6		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.286	<0.020	<0.0200	<0.0200	0.152	0.148	0.756	3.9	0.174	0.318	<0.0500	<0.0200	<0.0200	0.022	3.13	0.218	7.03	9.1		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.54	<0.12	<0.05	<0.12	0.84	<0.2	<0.05	<0.05	<0.05	0.25	0.74	2.09	6.68	0.28	0.78	<0.12	<0.05	<0.05	<0.05	24.9	0.82	31.6	37.9		
	15/10/2019	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	0.2	<0.25	<0.10	<0.25	1.19	<0.5	<0.10	<0.10	<0.10	0.38	0.67	2.8	9.91	0.57	1.17	<0.25	<0.10	<0.10	<0.10	15.1	1.04	25	33		
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	0.07	<0.12	<0.05	<0.12	0.79	<0.2	<0.05	<0.05	<0.05	0.24	0.66	1.75	7.47	0.39	0.94	<0.12	<0.05	<0.05	<0.05	13.2	0.71	20.7	26.2		
	10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	0.26	<0.09	<0.04	<0.09	1.01	0.3	<0.04	<0.04	<0.04	0.31	0.75	2.39	9.33	0.45	1.02	<0.09	<0.04	<0.04	<0.04	15	0.98	24.3	31.8		
	29/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	0.19	<0.25	<0.1	<0.25	1.29	<0.5	<0.1	<0.1	<0.1	0.45	0.85	2.91	10.3	0.58	1.31	<0.25	<0.1	<0.1	<0.1	16.6	1.11	26.9	35.6		
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	0.21	<0.06	<0.02	<0.06	1.4	<0.4	<0.02	<0.02	<0.02	0.47	1.03	3.38	11.8	0.67	1.55	<0.06	<0.02	<0.02	<0.02	17	1.34	28.8	38.8		
	13/04/2022	<0.05	<0.08	<0.05	<0.05	<0.13	<0.05	0.23	<0.13	<0.05	<0.13	1.42	<0.2	<0.05	<0.05	<0.05	0.43	0.89	3.58	11.3	0.63	1.34	<0.13	<0.05	<0.05	<0.05	17.6	1.36	28.9	38.8		
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.1	<0.02	<0.02	<0.02	0.02	0.3	1.85	0.05	0.29	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	1.93	2.86		
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	0.27	<0.05	<0.02	<0.05	1.76	0.5	<0.02	<0.02	<0.02	0.59	2	4.6	18.2	0.8	2.75	<0.05	<0.02	<0.02	<0.02	30.1	1.9	48.3	63.5	
MW038	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.51	<0.1	<0.02	<0.02	<0.02	0.13	0.12	0.67	4.37	0.2	0.74	<0.05	<0.02	<0.02	<0.02	1.96	0.23	6.33	8.93		
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	6.72	<0.02	<0.05	0.04	<0.05	54	16	0.1	5.58	<0.02	17.6	21.5	254	520	31.8	56.2	<0.05	<0.02	0.05	57	534	60.5	1,050	1,580	
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200																									

T8: Historical Groundwater PFAS Analytical Results

		4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	LOR	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
PFAS NEMP 2020 Drinking Water		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Location ID	Sample Date																															
MW114	29/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	5.5	1.2	<0.05	<0.05	<0.05	0.54	0.57	6.91	16.3	0.67	3.81	<0.12	<0.05	<0.05	<0.05	10.5	0.64	26.8	46.6	
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	3.65	0.4	<0.02	<0.02	<0.02	0.5	0.65	6.61	16.2	1.23	3.5	<0.05	<0.02	<0.02	<0.02	8.44	0.87	24.6	42	
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.35	0.7	<0.02	<0.02	<0.02	0.6	1.95	3.99	25.6	0.89	2.74	<0.05	<0.02	<0.02	0.05	45.9	1.28	71.5	86	
	17/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	4.11	0.192	<0.0200	<0.0200	<0.0200	0.652	0.902	6.28	18.1	1.21	2.95	<0.0500	<0.0200	<0.0200	0.034	17.6	0.97	35.7	53	
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.94	0.2	<0.02	<0.02	<0.02	0.24	0.58	1.79	8.51	0.45	1.12	<0.05	<0.02	<0.02	<0.02	14.3	0.5	22.8	28.6	
	16/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.38	0.7	<0.02	<0.02	<0.02	0.65	1.17	4.57	22.5	1.02	1.77	<0.05	<0.02	<0.02	0.04	24	1.22	46.5	60	
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.98	0.8	<0.05	<0.05	<0.05	0.48	0.95	4.28	17.8	1	2.19	<0.12	<0.05	<0.05	<0.05	19.8	0.78	37.6	50.1	
	10/09/2020	<0.07	<0.07	<0.07	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	<0.07	<0.19	1.64	0.5	<0.07	<0.07	<0.07	0.45	1.19	2.84	17.4	0.67	1.66	<0.19	<0.07	<0.07	<0.07	25.2	1.2	42.6	52.8	
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.3	<0.02	<0.02	<0.02	0.21	0.86	1.44	7.96	0.36	1.03	<0.05	<0.02	<0.02	0.04	22.6	0.54	30.6	36.1	
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1	0.4	<0.05	<0.05	<0.05	0.39	1.43	2.26	15.4	0.49	1.36	<0.12	<0.05	<0.05	0.05	32.8	0.98	48.2	56.6	
	12/04/2022	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	0.88	<0.5	<0.1	<0.1	<0.1	0.27	0.7	1.99	10.7	0.53	0.91	<0.25	<0.1	<0.1	<0.1	20.7	0.64	31.4	37.3	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.3	0.7	<0.05	<0.05	<0.05	0.46	0.83	5.9	12.8	1.03	2.02	<0.12	<0.05	<0.05	<0.05	16.5	0.8	29.3	43.3	
28/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.62	<0.2	<0.05	<0.05	<0.05	0.21	0.71	1.42	7.86	0.37	0.75	<0.12	<0.05	<0.05	<0.05	25	0.53	32.9	37.5		
MW125	29/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.46	<0.05	0.62	0.62		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.26	<0.2	<0.05	<0.05	<0.05	0.62	2.8	7.29	35.9	1.16	2.86	<0.12	<0.05	<0.05	<0.05	30.3	1.41	66.2	84.6	
	18/12/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	<0.010	<0.025	2	<0.020	<0.010	<0.010	0.594	1.59	8.27	37	1.1	2.59	<0.025	<0.010	<0.010	0.013	21.5	0.778	63.9	80.8		
	28/04/2020	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	0.32	<1.2	<0.25	<0.25	<0.25	<0.25	<0.25	1.48	7.12	<0.25	0.32	<0.62	<0.25	<0.25	<0.25	22.3	<0.25	29.4	31.5	
	10/09/2020	<0.05	0.06	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.4	<0.2	<0.05	<0.05	<0.05	0.11	0.18	1.91	7.13	0.26	0.38	<0.12	<0.05	<0.05	<0.05	11.6	0.17	18.7	22.2	
	29/04/2021	<10	<10	<10	<10	<25	<10	<25	<10	<25	<10	<25	11	<50	<10	<10	<10	11	45	185	10	11	<25	<10	<10	<10	611	<10	796	884		
	13/10/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	3.67	<1.1	<0.1	<0.1	<0.1	1.26	4.09	18.6	79.8	2.64	5.95	<0.25	<0.1	<0.1	<0.1	307	2.03	387	425	
	20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.15	0.78	3.12	0.11	0.21	<0.06	<0.02	<0.02	<0.02	14	0.08	17.1	18.7	
	11/10/2022	<0.48	<0.48	<0.48	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	<0.48	<1.19	4.14	<2.4	<0.48	<0.48	<0.48	1.67	4.14	19.6	92.8	2.57	5.38	<1.19	<0.48	<0.48	<0.48	160	2.28	253	292	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.06	0.16	1.12	0.02	0.06	<0.05	<0.02	<0.02	<0.02	4.2	0.04	5.32	5.7		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0362	<0.002	<0.0005	<0.0005	<0.0005	0.0095	0.0088	0.0682	0.296	0.0203	0.0399	<0.0005	<0.0005	<0.0005	0.0005	0.181	0.0237	0.477	0.684	
17/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0445	<0.002	<0.0005	<0.0005	<0.0005	0.0039	0.0061	0.0478	0.461	0.0065	0.0302	<0.0005	<0.0005	<0.0005	0.0005	0.067	0.0038	0.528	0.671		
1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.38	0.38		
16/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0015	<0.002	<0.0005	<0.0005	<0.0005	0.0012	0.002	0.022	0.0006	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	0.0266	0.0007	0.0486	0.0565			
29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.01	0.15	0.15		
10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.03	0.03		
21/04/2021	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.01	0.2	0.27		
11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.15	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	0.24	<0.01	0.39	0.51		
20/04/2022	<0.05	<0.05	<0.05	<0.05	&																											

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW249	17/08/2017	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	8.58	<0.25	<0.10	<0.25	6.29	<0.5	<0.10	<0.10	<0.10	1.28	2.33	15.2	37	2.8	3.69	<0.25	<0.10	<0.10	<0.10	118	3.88	155	199			
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.37	0.2	<0.02	<0.02	<0.02	0.08	0.11	0.41	2.47	0.11	0.36	<0.05	<0.02	<0.02	<0.02	1.93	0.13	4.4	6.17			
	19/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.100	0.694	411	58.7	836	1,420		
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	5.02	<0.05	<0.02	<0.05	8.25	1.8	0.03	2.13	<0.02	3.54	5	45.5	93.4	5.15	10.9	<0.05	<0.02	0.03	0.09	150	13.4	243	344		
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	3.56	<0.05	<0.02	<0.05	8.4	3.8	0.03	0.25	<0.02	4.82	4.32	35.4	96.8	7.91	9.52	<0.05	<0.02	<0.02	0.21	129	11.1	226	315		
Remaining On-Base																																		
MW002	27/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.1	0.11	0.8	2.79	0.18	0.42	<0.05	<0.02	<0.02	<0.02	3.13	0.16	5.92	8.07			
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	<0.1	<0.02	<0.02	<0.02	0.12	0.13	0.87	3.75	0.21	0.5	<0.05	<0.02	<0.02	<0.02	4.04	0.21	7.79	10.2			
	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.26	<0.1	<0.02	<0.02	<0.02	0.1	0.18	1	2.97	0.2	0.35	<0.05	<0.02	<0.02	<0.02	2.58	0.17	5.55	7.81			
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	0.68	<0.2	<0.05	<0.05	<0.05	0.1	0.14	1.12	4.01	0.22	0.51	<0.12	<0.05	<0.05	<0.05	2.66	0.16	6.67	9.6			
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.732	<0.020	<0.0200	<0.0200	<0.0200	0.078	0.096	0.952	2.62	0.18	0.508	<0.0500	<0.0200	<0.0200	<0.0200	1.46	0.104	4.08	6.73			
	30/04/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	<0.1	<0.02	<0.02	<0.02	0.09	0.12	0.86	2.71	0.13	0.37	<0.05	<0.02	<0.02	<0.02	2.51	0.11	5.22	7.28			
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	0.1	<0.02	<0.02	<0.02	0.09	0.17	0.88	2.98	0.16	0.31	<0.05	<0.02	<0.02	<0.02	2.02	0.16	5	7.15			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.2	<0.02	<0.02	<0.02	0.1	0.2	0.99	3.64	0.14	0.4	<0.05	<0.02	<0.02	<0.02	3.78	0.16	7.42	9.96			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.56	0.3	<0.02	<0.02	<0.02	0.13	0.18	1.33	3.5	0.29	0.54	<0.05	<0.02	<0.02	<0.02	3.3	0.22	6.8	10.4			
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.78	0.2	<0.02	<0.02	<0.02	0.08	0.09	1.2	3.01	0.25	0.62	<0.05	<0.02	<0.02	<0.02	1.53	0.1	4.54	7.86			
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.46	0.2	<0.04	<0.04	<0.04	0.14	0.29	1.2	3.64	0.23	0.46	<0.09	<0.04	<0.04	<0.04	4.66	0.24	8.3	11.6			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.1	<0.02	<0.02	<0.02	0.08	0.16	0.82	2.37	0.15	0.23	<0.05	<0.02	<0.02	<0.02	4.26	0.17	6.63	8.57			
	10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.12	0.18	1.21	3.19	0.22	0.45	<0.05	<0.02	<0.02	<0.02	2.63	0.18	5.82	8.77			
	27/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.14	0.2	<0.02	<0.02	<0.02	0.13	0.14	1.86	5.36	0.4	1.19	<0.06	<0.02	<0.02	<0.02	1.05	0.14	6.41	11.6			
	MW004	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.02	<0.01	0.06	0.09			
17/04/2018		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	0.08	<0.01	0.14	0.16				
19/12/2018		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0325	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0028	0.0018	0.0507	<0.0005	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.052	0.0017	0.103	0.147			
30/04/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.012	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	0.0017	0.0013	0.0272	<0.0005	0.0026	<0.0005	<0.0005	<0.0005	<0.0005	0.0319	<0.0005	0.0591	0.0767			
18/10/2019		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.18			
29/04/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.06			
9/09/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.06	0.09			
28/04/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.04	0.07			
12/10/2021		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16			
13/04/2022		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05			
10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.09				
27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
MW026	30/06/2017	<0.05	0.14	<0.05	<0.05	<0.05	<0.02	<0.05	0.18	<0.05	<0.02	<0.05	1.43	0.6	<0.02	<0.02	<0.02	0.4	0.93	3.22	10.4	0.51	1.44	<0.05	<0.02	<0.02	<0.02	46.4	1.06	56.8	66.7			
	27/07/2017	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	0.1	<0.05	<0.02	<0.05	0.89	0.3	<0.02	<0.02	<0.02	0.47	0.7	2.18	8.92	0.52	1.3	<0.05	<0.02	<0.02	<0.02	31	0.92	39.9	47.5			
	17/08/2017	<0.05	0.23	<0.05	<0.05	<0.05	<0.02	<0.05	0.08	<0.05	<0.0																							

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EiFOSA	EiFOSAA	EiFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	0.20		
PFAS NEMP 2020 Drinking Water																																	0.56	0.07	
Location ID	Sample Date																																		
MW034	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	10.7	<0.1	<0.02	<0.02	<0.02	0.25	0.72	2.76	15.4	0.9	5.28	<0.05	<0.02	<0.02	<0.02	1.56	0.36	17	37.9		
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.8	0.8	<0.02	<0.02	<0.02	0.48	0.57	4.33	14.5	0.99	4.74	<0.05	<0.02	<0.02	<0.02	2.73	0.5	17.2	35.4		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	9.09	0.076	<0.0200	<0.0200	<0.0200	0.71	1.13	7.09	22.9	1.53	6.63	<0.0500	<0.0200	<0.0200	<0.0200	7.39	1.07	30.3	57.6		
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.12	<0.2	<0.05	<0.05	<0.05	0.54	0.74	5.16	17.4	0.18	4.9	<0.12	<0.05	<0.05	<0.05	4.92	0.76	22.3	40.7		
	15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.7	0.3	<0.02	<0.02	<0.02	0.39	0.42	4.82	10.6	1.05	3.16	<0.05	<0.02	<0.02	<0.02	1.43	0.42	12	29.3		
	28/04/2020	<0.05	0.07	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.06	0.9	<0.02	<0.02	<0.02	0.47	0.6	4.02	13	1.19	4.55	<0.05	<0.02	<0.02	<0.02	2.62	0.52	15.6	34		
	11/09/2020	<0.06	<0.06	<0.06	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	<0.06	<0.16	6.24	0.6	<0.06	<0.06	<0.06	0.43	0.48	4.46	11.4	1.13	4.2	<0.16	<0.06	<0.06	<0.06	1.77	0.47	13.2	31.2		
	30/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	5.05	0.7	<0.02	<0.02	<0.02	0.48	0.69	4.47	13.2	1.04	4.01	<0.05	<0.02	<0.02	<0.02	5.08	0.59	18.3	35.3		
	11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	6.5	0.8	<0.05	<0.05	<0.05	0.48	0.6	4.97	13.1	1.22	4.18	<0.12	<0.05	<0.05	<0.05	1.92	0.42	15	34.2		
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.06	0.6	<0.02	<0.02	<0.02	0.39	0.56	4.48	11.4	1.06	4.15	<0.06	<0.02	<0.02	<0.02	2.21	0.47	13.6	31.4		
13/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	6.87	0.8	<0.02	<0.02	<0.02	0.42	0.74	5.94	15.5	1.23	4.73	<0.05	<0.02	<0.02	<0.02	3.17	0.44	18.7	39.8			
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.4	0.5	<0.02	<0.02	<0.02	0.34	0.62	3.31	11	0.86	4.06	<0.05	<0.02	<0.02	<0.02	2.78	0.41	13.8	28.3			
MW049	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	0.1	0.15	<0.02	0.02	0.23	0.06	0.52	1.69	0.19	0.22	<0.05	<0.02	0.02	0.07	1.74	0.29	3.43	5.63		
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	<0.1	0.05	<0.02	<0.02	0.09	0.08	0.36	2.26	0.14	0.34	<0.05	<0.02	<0.02	<0.02	1.6	0.16	3.86	5.37		
	28/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	0.02	<0.02	<0.02	0.05	0.05	0.27	1.48	0.06	0.23	<0.05	<0.02	<0.02	<0.02	0.8	0.08	2.28	3.27		
	12/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.1	1.11	<0.02	0.2	0.47	<0.02	0.33	0.21	0.4	0.03	<0.05	0.02	0.16	0.77	1.46	1.16	1.67	6.48		
	18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	0.62	<0.02	0.08	0.41	0.03	0.39	0.74	0.33	0.08	<0.05	<0.02	0.07	0.38	1.56	0.75	2.3	5.66		
	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.084	<0.020	0.13	<0.0200	0.02	0.146	0.022	0.202	0.322	0.136	0.054	<0.0500	<0.0200	<0.0200	0.072	0.518	0.186	0.84	1.89		
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0034	<0.001	<0.0005	<0.001	0.535	0.033	0.0502	0.0062	0.0085	0.481	0.133	1.24	3.54	0.574	0.448	0.0024	0.0013	0.0053	0.0344	1.42	0.369	4.96	8.88				
14/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	0.03	<0.02	0.03	0.07	0.08	0.39	2.14	0.11	0.23	<0.05	<0.02	<0.02	<0.02	1.41	0.12	3.55	4.94			
MW056	30/06/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.2	<0.2	<0.05	<0.05	<0.05	<0.05	0.25	2.24	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	0.09	<0.05	2.33	4.6			
	28/07/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	0.22	1.93	<0.05	0.86	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.05	3.89			
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.76	<0.2	<0.05	<0.05	<0.05	<0.05	0.28	2.05	0.07	0.75	<0.12	<0.05	<0.05	<0.05	0.08	<0.05	2.13	3.99			
	17/04/2018	<0.10	0.19	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	1.14	0.6	<0.10	<0.10	<0.10	<0.10	0.85	2.77	0.34	0.55	<0.25	<0.10	<0.10	<0.10	0.69	<0.10	3.46	7.13			
	29/04/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.28	<0.2	<0.05	<0.05	<0.05	<0.05	0.08	0.78	<0.05	0.18	<0.12	<0.05	<0.05	<0.05	0.16	<0.05	0.94	1.48			
	18/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.32	<0.02	0.08	<0.05	<0.02	<0.02	<0.02	0.04	<0.02	0.36	0.61			
	30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.6	<0.1	<0.02	<0.02	<0.02	0.03	0.18	1.81	0.03	0.5	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.03	3.38			
	7/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.06	0.2	<0.02	<0.02	<0.02	0.05	0.02	0.57	2.36	0.12	0.54	<0.05	<0.02	<0.02	<0.02	0.21	0.05	2.57	5.18		
	6/05/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.63	<0.1	<0.02	<0.02	<0.02	0.02	0.02	0.28	1.79	0.07	0.51	<0.05	<0.02	<0.02	<0.02	0.12	0.02	1.91	3.46		
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	<0.04	<0.09	0.84	0.2	<0.04	<0.04	<0.04	0.11	0.1	0.67	4.22	0.17	0.7	<0.09	<0.04	<0.04	<0.04	1.5	0.14	5.72	8.65		
13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.68	0.1	<0.02	<0.02	<0.02	0.03	0.03	0.38	1.89	0.08	0.46	<0.05	<0.02	<0.02	<0.02	0.28	0.03	2.17	3.96			
10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.79	0.2	<0.02	<0.02	<0.02	0.02	0.02	0.42	2.44													

T8: Historical Groudwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																														
PFAS NEMP 2020 Drinking Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTeDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
MW063	17/08/2017	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.17	0.4	<0.02	<0.02	<0.02	0.43	0.75	3.44	13.3	0.75	1.98	<0.05	<0.02	<0.02	<0.02	<0.02	17.1	1	30.4	40.6
	17/04/2018	<0.05	0.27	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.74	0.8	<0.02	<0.02	<0.02	0.71	1.22	5.41	15.3	1.11	2.4	<0.05	<0.02	<0.02	<0.02	<0.02	28.3	1.2	43.6	58.5
	17/12/2018	<0.020	0.146	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	1.5	0.126	<0.0200	<0.0200	<0.0200	0.488	0.67	4.37	12.5	0.83	1.51	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	15.1	0.806	27.6	38
	2/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.2	<0.1	<0.02	<0.02	<0.02	0.07	0.12	0.56	1.51	0.11	0.23	<0.05	<0.02	<0.02	<0.02	<0.02	3.46	0.12	4.97	6.38
	16/10/2019	<0.05	0.15	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.28	0.2	<0.02	<0.02	<0.02	0.45	0.76	3.5	9.49	0.72	1.19	<0.05	<0.02	<0.02	<0.02	<0.02	14.2	0.82	23.7	32.8
	29/04/2020	<0.05	0.36	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.55	0.4	<0.02	<0.02	<0.02	0.43	0.99	4.05	10.8	0.74	1.65	<0.05	<0.02	<0.02	<0.02	<0.02	19.3	0.85	30.1	41.1
	10/09/2020	<0.05	0.12	<0.05	<0.05	<0.09	<0.04	<0.09	<0.04	<0.05	<0.04	<0.09	1.21	0.5	<0.04	<0.04	<0.04	0.43	0.77	3.18	11.2	0.73	1.41	<0.09	<0.04	<0.04	<0.04	<0.04	19.3	0.85	30.5	39.7
	30/04/2021	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.16	0.6	<0.05	<0.05	<0.05	0.48	0.71	3.4	10.5	0.74	1.39	<0.12	<0.05	<0.05	<0.05	<0.05	15.9	0.8	26.4	35.8
	13/10/2021	<0.05	0.17	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	1.23	0.6	<0.02	<0.02	<0.02	0.5	0.99	3.5	12.4	0.72	1.82	<0.06	<0.02	<0.02	<0.02	<0.02	19.5	0.92	31.9	42.4
	21/04/2022	<0.05	0.12	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.34	0.5	<0.05	<0.05	<0.05	0.48	0.82	3.64	12.3	0.91	1.7	<0.12	<0.05	<0.05	<0.05	<0.05	24.9	1.03	37.2	47.7
12/10/2022	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.42	0.5	<0.05	<0.05	<0.05	0.54	0.96	3.98	12.6	0.76	1.62	<0.12	<0.05	<0.05	<0.05	<0.05	21.4	0.94	34	44.8	
4/05/2023	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.97	0.3	<0.02	<0.02	<0.02	0.31	0.76	2.29	9.72	0.52	1.55	<0.05	<0.02	<0.02	<0.02	<0.02	16	0.64	25.7	33.2	
MW112	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.92	<0.2	<0.05	<0.05	<0.05	0.18	<0.05	3.06	3.64	<0.05	0.82	<0.12	<0.05	<0.05	<0.05	<0.05	0.58	0.08	4.22	9.28
	16/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	7.46	1.6	<0.10	<0.10	<0.10	1.06	0.34	19.9	36.2	3.22	6.5	<0.25	<0.10	<0.10	<0.10	<0.10	2.14	0.58	38.3	79
	20/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	11.7	0.608	<0.0200	<0.0200	<0.0200	2.96	9.66	36.5	114	4.89	17.3	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	54.1	5.45	168	257
	30/04/2021	<0.75	<0.75	<0.75	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	<0.75	<1.88	6.33	<3.8	<0.75	<0.75	<0.75	2.79	7.46	29.1	113	3.92	7.76	<1.88	<0.75	<0.75	<0.75	<0.75	128	6.4	241	305
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	3.03	<1.2	<0.05	<0.05	<0.05	1.1	3.82	13.6	50.8	1.98	4.76	<0.12	<0.05	<0.05	<0.05	<0.05	92	2.3	143	173
	12/04/2022	<0.25	<0.25	<0.25	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	<0.25	<0.62	1.68	<1.2	<0.25	<0.25	<0.25	0.42	1.22	6.85	24.8	0.92	1.72	<0.62	<0.25	<0.25	<0.25	<0.25	31.8	0.92	56.6	70.3
	12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.04	0.4	<0.05	<0.05	<0.05	0.62	1.35	8.8	25.5	1.23	2.48	<0.12	<0.05	<0.05	<0.05	<0.05	27.2	1.13	52.7	70.8
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.24	0.6	<0.02	<0.02	<0.02	0.59	1.99	9.6	33.8	1.42	3.71	<0.05	<0.02	<0.02	<0.02	<0.02	25.5	1.16	59.3	80.6
	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	4.28	0.5	<0.02	<0.02	<0.02	0.92	1.06	10	27	1.66	4.84	<0.05	<0.02	<0.02	<0.02	<0.02	10.9	1.98	37.9	63.1
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.17	1.3	<0.02	<0.02	<0.02	1.07	1.52	8.97	29.4	1.62	4.72	<0.05	<0.02	<0.02	<0.02	<0.02	23.3	1.91	52.7	78
18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0225	<0.002	<0.0005	0.0011	<0.0005	0.0021	0.0086	0.0168	0.11	0.0032	0.0154	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.224	0.007	0.334	0.411	
2/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0018	<0.001	<0.0005	<0.001	1.54	0.103	<0.0005	0.0032	<0.0005	0.422	1.09	3.19	11.3	0.607	1.65	<0.0005	<0.0005	<0.0005	0.0056	15.6	1	26.9	36.5		
15/10/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.89	0.6	<0.02	<0.02	<0.02	0.49	0.65	4.28	13.2	0.85	1.73	<0.0500	<0.0200	<0.0200	<0.0200	<0.0200	10.6	0.99	23.8	35.3	
28/04/2020	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	0.02	<0.05	<0.02	<0.05	2.07	0.7	<0.02	<0.02	<0.02	0.58	1.79	4.23	17.2	0.86	2.02	<0.05	<0.02	<0.02	<0.02	<0.02	40.2	1.64	57.4	71.4	
11/09/2020	<0.05	<0.05	<0.05	<0.05	<0.08	<0.03	<0.08	<0.03	<0.08	<0.03	<0.08	2.52	0.8	<0.03	<0.03	<0.03	0.69	0.92	5.36	16.4	1.1	2.4	<0.08	<0.03	<0.03	<0.03	<0.03	14.2	1.42	30.6	45.8	
30/04/2021	<0.1	<0.1	<0.1	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	<0.1	<0.25	1.67	0.7	<0.1	<0.1	<0.1	0.53	0.82	3.8	13.8	0.78	1.89	<0.25	<0.1	<0.1	<0.1	<0.1	22.6	1.13	36.4	47.7	
11/10/2021	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.21	0.4	<0.02	<0.02	<0.02	0.3	0.7														

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01				
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																	0.56	0.07
Location ID	Sample Date																																	
MW136	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.24	0.96	0.14	0.14	<0.05	<0.02	<0.02	<0.02	0.81	0.04	1.77	2.59
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.04	0.22	0.58	0.1	0.07	<0.05	<0.02	<0.02	<0.02	1.15	0.03	1.73	2.33
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0335	0.006	<0.0005	0.0012	<0.0005	0.0105	0.0152	0.0495	0.218	0.0269	0.0341	<0.0005	<0.0005	<0.0005	0.0012	0.43	0.0125	0.648	0.839	
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.11	0.4	0.05	0.05	<0.05	<0.02	<0.02	<0.02	0.45	0.02	0.85	1.17	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	0.08	0.23	0.92	0.07	0.08	<0.05	<0.02	<0.02	<0.02	3.07	0.07	3.99	4.63	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	<0.02	0.05	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.51	0.64	
	28/04/2021	<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.24	0.03	0.02	<0.05	<0.02	<0.02	<0.02	0.61	0.02	0.85	1.21	
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.52	<0.02	0.07	<0.05	<0.02	<0.02	<0.02	0.36	<0.01	0.88	1.11	
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.24	0.04	0.02	<0.05	<0.02	<0.02	<0.02	0.58	<0.01	0.82	0.92	
	11/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.37	0.04	0.05	<0.05	<0.02	<0.02	<0.02	0.38	<0.01	0.75	0.89	
	4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.17	0.36	0.07	0.05	<0.05	<0.02	<0.02	<0.02	0.75	0.03	1.11	1.54	
	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0236	0.003	<0.0005	<0.0005	<0.0005	0.0008	0.0011	0.0084	0.135	0.0029	0.0146	<0.0005	<0.0005	<0.0005	<0.0005	0.0039	0.0007	0.139	0.194	
18/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0247	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0014	0.0093	0.0769	0.0017	0.0128	<0.0005	<0.0005	<0.0005	<0.0005	0.0264	0.0009	0.103	0.155		
1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.16	<0.01	0.27	0.35		
16/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0405	<0.002	<0.0005	<0.0005	<0.0005	0.0028	0.0084	0.0483	0.139	0.0142	0.0207	<0.0005	<0.0005	<0.0005	<0.0005	0.202	0.0057	0.341	0.482		
29/04/2020	<0.05	0.18	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.27		
10/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.09	0.15		
21/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	<0.01	0.02	0.02		
11/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
20/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01		
12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.07	0.07		
28/04/2023	<0.05	0.11	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.2	0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.22	0.53		
18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.27	<0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.34	0.5		
18/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.27	0.1	<0.02	<0.02	<0.02	<0.02	0.09	0.23	0.58	5.25	0.12	0.91	<0.05	<0.02	<0.02	<0.02	2.26	0.16	7.51	11	
18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.634	<0.020	<0.0200	<0.0200	<0.0200	0.082	0.124	0.538	2.64	0.112	0.444	<0.0500	<0.0200	<0.0200	<0.0200	1.11	0.146	3.75	5.83		
10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0994	0.006	<0.0005	<0.0005	<0.0005	0.0073	0.0177	0.0672	0.339	0.0127	0.079	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0145	0.523	0.827		
17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.06		
30/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	0.03	0.06	0.23	1.73	0.04	0.29	<0.05	<0.02	<0.02	<0.02	0.34	0.04	2.07	3.1		
23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.17	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.22	0.31		
30/04/2021	<0.05	<0.05	<0.05	<0.																														

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L					
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01					
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																																0.13	220	
PFAS NEMP 2020 Drinking Water																																0.56	0.07	
Location ID	Sample Date																																	
MW234	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.05	<0.05	0.13	0.13				
	19/04/2018	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	0.15			
	20/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0229	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0042	0.0069	0.0609	0.0032	0.0102	<0.0005	<0.0005	<0.0005	0.0007	0.112	0.0119	0.173	0.235	
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0155	<0.002	<0.0005	<0.0005	<0.0005	0.0025	0.0044	0.0068	0.0647	0.003	0.0136	<0.0005	<0.0005	<0.0005	0.0005	0.0915	0.01	0.156	0.212	
	25/10/2019	<0.10	<0.10	<0.20	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	0.12	0.12		
	27/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	<0.01	0.17	0.2			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.01	0.2	0.23			
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.12	0.12				
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.1	0.1				
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.09	0.03	0.12	0.15				
12/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.11	0.04	0.14	0.18					
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.03	0.03					
MW235	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	0.07	<0.05	0.22	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.09	0.06	0.44				
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.001	<0.001	<0.0005	<0.001	0.0449	0.014	<0.0005	<0.0005	<0.0005	0.0658	0.0104	0.213	0.13	0.128	0.0185	<0.0005	<0.0005	<0.0005	0.004	0.121	0.171	0.251	0.922			
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0412	0.016	<0.0005	<0.0005	<0.0005	0.0769	0.0038	0.206	0.0866	0.168	0.0184	<0.0005	<0.0005	<0.0005	0.0046	0.0333	0.113	0.12	0.768			
	29/04/2020	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.1	<0.02	0.2	0.09	0.17	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.18	0.14	0.98			
	20/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	0.1	<0.02	<0.02	<0.02	0.17	<0.02	0.41	0.09	0.28	<0.02	<0.05	<0.02	<0.02	0.04	0.08	0.28	0.17	1.48			
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.2	0.1	<0.02	<0.02	<0.02	0.12	<0.02	0.29	0.12	0.18	0.02	<0.05	<0.02	<0.02	0.03	0.06	0.23	0.18	1.15			
4/05/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	0.1	<0.02	0.24	0.1	0.2	0.02	<0.05	<0.02	<0.02	<0.02	0.05	0.16	0.15	0.91				
MW241	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.2	<0.05	<0.05	<0.05	0.07	<0.05	0.22	0.06	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.09	0.06	0.44				
	12/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.384	0.018	<0.0005	<0.0005	<0.0005	0.012	0.0287	0.0887	2.23	0.0386	0.0334	<0.0005	<0.0005	<0.0005	0.0739	0.0046	2.3	2.91				
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.875	<0.002	<0.0020	<0.0020	<0.0020	0.0296	0.0342	0.469	3.48	0.073	0.417	<0.0050	<0.0020	<0.0020	<0.0005	0.0984	0.0306	3.58	5.51			
	1/05/2019	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.3	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	2.62	<0.05	0.32	<0.12	<0.05	<0.05	<0.05	0.12	<0.05	2.74	3.48			
	17/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.437	0.016	<0.0005	<0.0005	<0.0005	0.0085	0.0671	0.165	2.19	0.0448	0.318	<0.0005	<0.0005	<0.0005	0.176	0.0111	2.37	3.43				
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.38	0.2	<0.02	<0.02	<0.02	0.04	0.18	2.62	0.04	0.33	<0.02	<0.02	<0.02	<0.02	0.37	<0.01	2.99	4.16				
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.4	0.2	<0.02	<0.02	<0.02	0.04	0.14	2.39	0.04	0.35	<0.05	<0.02	<0.02	<0.02	0.22	0.01	2.61	3.79				
	28/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.05	0.2	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.45	0.02	2.79	3.92				
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.35	0.1	<0.02	<0.02	<0.02	0.05	0.13	1.98	0.04	0.32	<0.05	<0.02	<0.02	<0.02	0.26	<0.01	2.24	3.23				
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.34	<0.1	<0.02	<0.02	<0.02	0.07	0.24	2.34	0.05	0.32	<0.05	<0.02	<0.02	<0.02	0.44	0.04	2.78	3.84				
10/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.31	0.1	<0.02	<0.02	<0.02	0.04	0.19	1.94	0.05	0.29	<0.05	<0.02	<0.02	<0.02	0.28	0.01	2.22	3.21					
27/04/2023	<0.1	<0.1	<0.1	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	<0.1	<0.24	0.3	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.38	1.98	<0.1	0.27	<0.24	<0.1	<0.1	<0.1	0.31	<0.1	2.29	3.24				
MW242	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.15	<0.2	<0.05	<0.05	<0.05	<0.05	0.24	0.68	<0.05	0.12	<0.12	<0.05	<0.05	<0.05	1.06	0.05	1.74	2.3				
	19/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.21	<0.02	<0												

T8: Historical Groundwater PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOA	EtFOAA	EtFOSE	FOSA	MeFOA	MeFOAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L			
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01			
PFAS NEMP 2020 Freshwater and Marine Water 95% Species Protection																											0.13	0.20				
PFAS NEMP 2020 Drinking Water																											0.56	0.07				
Location ID	Sample Date																															
MW208	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.14	0.31
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.15	0.23
	11/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.138	<0.002	<0.0005	<0.0005	<0.0005	0.01	0.004	0.0112	0.197	0.0081	0.0255	<0.0005	<0.0005	<0.0005	<0.0005	0.0499	0.0122	0.247	0.456	
	23/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.28	0.02	0.04	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.34	0.58		
	17/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.06	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	0.07	<0.01	0.13	0.25		
	14/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.08	<0.2	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	0.05	<0.05	0.15	<0.01	0.15	0.23	
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.24	0.35		
	12/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.11	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.23	0.36		
	14/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.21	0.3		
	6/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.13	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.18	0.24		
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	<0.01	0.17	0.23			
MW209	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.1	0.02	0.19	0.31			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.22	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	0.02	0.44	0.64			
MW210	6/05/2019	<0.001	0.007	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0312	<0.002	<0.0005	<0.0005	<0.0005	0.004	0.0029	0.0193	0.075	0.0019	0.0062	<0.0005	<0.0005	<0.0005	0.0637	0.0022	0.139	0.213			
	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.09	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.02	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07			
6/05/2019	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.137	<0.002	<0.0020	<0.0020	<0.0020	0.0244	0.0326	0.282	1.31	0.023	0.101	<0.0050	<0.0020	<0.0020	0.52	0.034	1.83	2.46			
MW211	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.07	0.07			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.15	0.18			
	3/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0405	<0.002	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0405	<0.0005	0.004	<0.0005	<0.0005	<0.0005	<0.0005	0.0439	<0.0005	0.0844	0.136			
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0358	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0043	0.0027	0.068	<0.0005	0.0045	<0.0005	<0.0005	<0.0005	0.0987	0.0017	0.167	0.217			
	25/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.11	0.14			
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.11	<0.01	0.19	0.22			
	27/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	<0.01	0.18	0.18			
	13/10/2021	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	0.05	<0.2	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.12	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	0.29	0.29			
	19/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.06	<0.01	0.09	0.09			
	8/10/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	0.08	0.1			
25/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.15	<0.01	0.19	0.21				
MW212	15/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.01	<0.01	0.01	0.01			
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.04			
	4/12/2018	<0.001	0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0113	<0.002	0.003	<0.0005	<0.0005	0.0037	<0.0005	0.0064	0.0072	0.0025	<0.0005	<0.0005	<0.0005	0.0006	0.0017	0.0129	0.008	0.0201	0.0603		
	6/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0137	<0.002	0.0042	<0.0005	<0.0005	0.0045	<0.0005	0.0119	0.0103	0.004	0.0006	<0.0005	<0.0005	0.0006	0.0019	0.0217	0.0073	0.032	0.0807		
	22/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<								

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																															
NHMR - Recreational Use - Surface Water																															

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS	
On-Base Bohle River/Louisa Creek/Town Common																																
SW013	17/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.91	0.2	<0.02	<0.02	<0.02	0.24	0.31	2.85	13.9	0.82	1.98	<0.05	<0.02	<0.02	<0.02	0.90	0.40	14.80	24.5	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.2	<0.02	<0.02	<0.02	0.11	0.25	0.98	3.54	0.19	0.43	<0.05	<0.02	<0.02	<0.02	5.96	0.19	9.50	12.2	
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	0.2	<0.02	<0.02	<0.02	0.07	<0.02	0.87	<0.02	0.19	<0.02	<0.05	<0.02	<0.02	<0.02	<0.01	0.04	<0.01	1.43	
	19/12/2018	<0.020	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.152	<0.020	<0.0200	<0.0200	<0.0200	0.028	0.068	0.232	0.994	0.06	0.122	<0.0500	<0.0200	<0.0200	<0.0200	1.67	0.06	2.66	3.39
	30/04/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0026	<0.001	<0.0005	<0.001	0.247	0.065	0.001	0.009	<0.0005	0.0805	0.108	0.641	1.94	0.104	0.244	<0.0005	<0.0005	<0.0005	0.0026	2.91	0.14	4.85	6.5	
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	0.02	<0.02	<0.02	0.18	0.27	2.28	6.52	0.38	0.82	<0.06	<0.02	<0.02	<0.02	0.20	<0.01	0.36	0.57
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.86	<0.3	<0.02	<0.02	<0.02	0.18	0.27	2.28	6.52	0.38	0.82	<0.06	<0.02	<0.02	<0.02	3.11	0.32	9.63	14.7
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.16	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.19	0.47	0.05	0.08	<0.05	<0.02	<0.02	<0.02	0.19	0.03	0.66	1.19	
	22/04/2022	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.06	<0.02	<0.02	<0.02	0.07	<0.02	0.14	0.14	
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.07	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.2	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.11	0.02	0.31	0.49	
SW014	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.07	<0.01	0.12	0.12		
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.023	0.006	0.0007	<0.0005	<0.0005	0.0038	0.0019	0.0102	0.034	0.0089	0.0041	<0.0005	<0.0005	<0.0005	0.0006	0.03	0.01	0.07	0.131	
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0021	<0.002	<0.0005	<0.0005	<0.0005	0.002	<0.0005	0.0097	<0.0005	0.0085	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.00	<0.0003	0.0241
	12/12/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0123	<0.002	0.0009	<0.0005	<0.0005	0.0078	<0.0005	0.0043	0.0091	0.0054	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	0.01	0.00	0.02	0.0527	
	3/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.016	<0.002	0.0008	<0.0005	<0.0005	0.0043	0.0027	0.0079	0.0436	0.0057	0.0073	<0.0005	<0.0005	<0.0005	0.0013	0.05	0.01	0.10	0.15	
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0478	<0.002	0.0016	<0.0005	<0.0005	0.0118	0.0103	0.0366	0.157	0.0218	0.0203	<0.0005	<0.0005	<0.0005	0.0021	0.13	0.01	0.29	0.452	
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	0.05	0.03	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.18		
	24/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.03	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.05	0.05		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.08	0.08		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04		
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.05	<0.01	0.12	0.12		
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.02	0.02		
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.04		
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.02	<0.01	0.04	0.04			
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.03	<0.1	<0.02	<0.02	<0.02	<0.02	0.01	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.04	0.07			
SW016	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.22	0.1	0.04	<0.05	<0.02	<0.02	<0.02	0.28	0.04	0.50	0.88	
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0211	<0.002	0.0006	<0.0005	<0.0005	0.012	0.003	0.0241	0.0769	0.0119	0.0092	<0.0005	<0.0005	<0.0005	0.0005	0.09	0.01	0.17	0.254	
	17/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0022	<0.002	<0.0005	<0.0005	<0.0005	0.0036	<0.0005	0.0241	<0.0005	0.0105	<0.0005	<0.0005	<0.0005	<0.0005	&					

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSa	EFOSAA	EFOSe	FOSA	MeFOSA	MeFOSAA	MeFOSe	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTtDA	PFUnDA	PFNA	PFOS	PFoA	Sum of PFOS and PFHxS	Sum of PFAS		
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01		
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														0.13	220	
NHMRC - Recreational Use - Surface Water																														10	2	

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSa	EFOSAA	EFOSe	FOSA	MeFOSA	MeFOSAA	MeFOSe	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTtDA	PFUnDA	PFNA	PFOS	PFoA	Sum of PFOS and PFHxS	Sum of PFAS			
SW112	18/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	0.05	0.0376	0.0146	<0.005	<0.005	<0.005	<0.005	0.06	0.04	0.10	0.22		
	19/04/2018	<0.001	0.004	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0034	0.0034	0.0558	0.136	0.0376	0.0146	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.17	0.04	0.30	0.504
	19/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	0.0053	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	0.01	<0.0003	0.107
	20/12/2018	<0.001	0.006	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0007	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0459	<0.002	0.0041	<0.0005	<0.0005	0.0082	0.0093	0.0664	0.111	0.0431	0.0115	<0.0005	<0.0005	<0.0005	0.0018	0.28	0.03	0.39	0.621	
	3/05/2019	<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0316	<0.002	0.0014	<0.0005	<0.0005	0.0045	0.0044	0.0153	0.0574	0.0193	0.0089	<0.0005	<0.0005	<0.0005	0.0007	0.10	0.02	0.16	0.263	
	25/10/2019	<0.001	0.019	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.002	0.0009	<0.0005	<0.0005	0.0055	0.0018	0.0314	0.0275	0.0361	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	0.05	0.01	0.08	0.185	
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.10	0.01	0.16	0.17	
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.06	<0.01	0.10	0.14	
	16/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.24	0.34	
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.03	<0.01	0.07	0.09	
	12/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.09	0.11	
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.04	<0.01	0.1	0.1		
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.13	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.12	0.02	0.24	0.43	
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.1	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.15	0.01	0.25	0.32	
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.02	0.26	0.34	
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.13	0.01	0.24	0.29		
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.05	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.12	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	0.14	0.01	0.26	0.39		
SW123	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.45	0.5	<0.02	<0.02	<0.02	<0.02	0.39	0.44	2.83	11	0.84	1.71	<0.05	<0.02	<0.02	<0.02	0.03	14.30	0.64	25.30	34.1	
	1/03/2018	<0.002	<0.002	<0.002	<0.002	<0.0005	<0.0020	<0.0005	<0.0020	<0.0005	<0.0020	<0.0005	0.122	0.012	<0.0020	<0.0020	<0.0020	<0.0020	0.0226	0.0558	0.206	0.869	<0.0020	0.105	<0.0050	<0.0020	<0.0020	<0.0020	0.0026	3.92	0.15	6.38	8.25	
	2/03/2018	<0.002	<0.002	0.003	<0.002	<0.0005	<0.0020	<0.0005	0.0046	<0.0005	<0.0020	<0.0005	0.397	0.038	<0.0020	<0.0020	<0.0020	<0.0020	0.0582	0.168	0.575	2.46	0.145	0.325	<0.0050	<0.0020	<0.0020	0.0026	3.92	0.15	6.38	8.25		
	2/03/2018	<0.002	0.009	<0.002	<0.002	<0.0005	<0.0020	<0.0005	<0.0020	<0.0005	<0.0020	<0.0005	0.143	0.02	<0.0020	<0.0020	<0.0020	<0.0020	0.041	0.079	0.341	1.54	0.0764	0.142	<0.0050	<0.0020	<0.0020	0.0026	3.17	0.11	4.71	5.67		
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.489	0.148	<0.0100	<0.0100	<0.0100	<0.0100	0.109	0.346	1.21	2.87	0.254	0.409	<0.0250	<0.0100	<0.0100	<0.0100	7.02	0.31	9.89	13.2		
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.012	<0.025	<0.0100	<0.025	0.544	0.22	<0.0100	<0.0100	<0.0100	<0.0100	0.137	0.376	1.41	3.54	0.269	0.463	<0.0250	<0.0100	<0.0100	<0.0100	7.33	0.35	10.90	14.6		
	4/03/2018	<0.020	<0.020	0.024	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.72	0.35	<0.0200	<0.0200	<0.0200	<0.0200	0.466	1.24	3.82	15.5	0.74	1.91	<0.0500	<0.0200	<0.0200	<0.0200	19.90	1.04	35.40	47.7		
	4/03/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	2.78	0.198	<0.0200	<0.0200	<0.0200	<0.0200	0.506	1.34	3.99	16.5	0.806	1.86	<0.0500	<0.0200	<0.0200	<0.0200	20.30	0.98	36.80	49.3		
	5/03/2018	<0.010	<0.010	0.027	<0.010	<0.025	<0.0100	<0.025	0.038	<0.025	<0.0100	<0.025	2.2	1.12	<0.0100	<0.0100	<0.0100	<0.0100	0.513	1.33	5.26	16.7	1.17	2.09	<0.0250	<0.0100	<0.0100	0.021	20.40	1.28	37.10	52.1		
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	0.025	<0.025	<0.0100	<0.025	6.33	1.53	<0.0100	<0.0100	<0.0100	<0.0100	0.851	2.51	7.35	23.4												

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTEdA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMR - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTEdA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS		
SW126	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.39	0.1	<0.02	<0.02	<0.02	0.11	0.11	0.95	2.19	0.22	0.43	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	4.65	0.19	6.84	9.34
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.31	0.2	<0.02	<0.02	<0.02	0.07	0.13	0.66	1.92	0.16	0.25	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	3.77	0.13	5.69	7.6
	17/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.23	0.2	<0.02	<0.02	<0.02	0.06	<0.02	0.64	<0.02	0.16	0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	0.08	<0.01	1.42	
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.271	<0.002	<0.0020	0.005	<0.0020	0.0388	0.0748	0.465	1.3	0.0996	0.137	<0.0050	<0.0020	<0.0020	<0.0020	1.87	0.10	3.17	4.36		
	2/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.164	0.026	<0.0005	0.0063	<0.0005	0.0236	0.0783	0.251	0.739	0.0672	0.128	<0.0005	<0.0005	<0.0005	0.0008	1.68	0.05	2.42	3.21		
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	0.1	<0.02	<0.02	<0.02	0.04	0.07	0.41	1.16	0.11	0.16	<0.05	<0.02	<0.02	<0.02	2.78	0.09	3.94	5.1		
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.17	<0.1	<0.02	<0.02	<0.02	<0.02	0.06	0.3	1.18	0.08	0.15	<0.06	<0.02	<0.02	<0.02	2.35	0.05	3.53	4.34		
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	0.2	<0.02	<0.02	<0.02	0.04	0.09	0.52	1.31	0.12	0.2	<0.05	<0.02	<0.02	<0.02	3.28	0.10	4.59	6.11		
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.75	0.2	<0.02	<0.02	<0.02	0.09	0.11	1.03	2.18	0.26	0.52	<0.05	<0.02	<0.02	<0.02	2.10	0.13	4.28	7.37		
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.42	0.2	<0.02	<0.02	<0.02	0.07	0.17	0.82	2.17	0.18	0.38	<0.05	<0.02	<0.02	<0.02	7.15	0.16	9.32	11.7		
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.25	<0.1	<0.02	<0.02	<0.02	0.04	0.1	0.52	1.38	0.14	0.18	<0.05	<0.02	<0.02	<0.02	3.82	0.12	5.20	6.55		
	19/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.29	0.1	<0.02	<0.02	<0.02	0.08	0.16	0.81	2.14	0.17	0.33	<0.05	<0.02	<0.02	<0.02	3.58	0.16	5.72	7.82		
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.06	<0.02	<0.06	<0.02	<0.06	<0.02	<0.06	0.9	0.2	<0.02	<0.02	<0.02	<0.07	0.11	1.35	1.94	0.32	0.6	<0.06	<0.02	<0.02	<0.02	3.4	0.08	5.34	8.9		
	SW131	2/03/2018	<0.002	0.008	0.003	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.172	0.12	<0.0020	<0.0020	<0.0020	0.0454	0.091	0.411	1.72	0.0236	0.172	<0.0050	<0.0020	<0.0020	0.0034	3.80	0.12	5.52	6.69	
		2/03/2018	<0.002	0.009	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.163	0.041	<0.0020	<0.0020	<0.0020	0.0436	0.085	0.398	1.63	0.0822	0.159	<0.0050	<0.0020	<0.0020	0.003	4.07	0.12	5.70	6.8	
3/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.106	0.078	<0.0100	<0.0100	<0.0100	0.033	0.092	0.439	1.04	0.075	0.097	<0.0250	<0.0100	<0.0100	<0.0100	3.50	0.11	4.54	5.57		
3/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.101	0.076	<0.0100	<0.0100	<0.0100	0.039	0.088	0.454	1.05	0.062	0.093	<0.0250	<0.0100	<0.0100	<0.0100	3.16	0.11	4.21	5.24		
4/03/2018		<0.002	0.019	<0.002	<0.002	<0.005	<0.0020	<0.005	0.0046	<0.005	<0.0020	<0.005	0.208	0.023	<0.0020	0.0098	<0.0020	0.0536	0.139	0.486	1.9	0.113	0.168	<0.0050	<0.0020	<0.0020	<0.0020	4.98	0.14	6.88	8.25		
4/03/2018		<0.002	0.013	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.196	0.02	<0.0020	0.0078	<0.0020	0.0542	0.131	0.476	2.14	0.11	0.149	<0.0050	<0.0020	<0.0020	<0.0020	5.02	0.13	7.16	8.45		
5/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.123	0.267	<0.0100	<0.0100	<0.0100	0.053	0.115	0.527	1.2	0.064	0.12	<0.0250	<0.0100	<0.0100	<0.0100	3.89	0.13	5.09	6.48		
5/03/2018		<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.245	0.095	<0.0100	<0.0100	<0.0100	0.048	0.114	0.475	1.7	0.111	0.213	<0.0250	<0.0100	<0.0100	<0.0100	4.50	0.18	6.20	7.68		
19/04/2018		<0.001	0.014	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0022	<0.001	<0.0005	<0.001	0.219	0.017	0.001	0.0068	<0.0005	0.0875	0.149	0.714	2.28	0.116	0.234	<0.0005	<0.0005	<0.0005	0.0028	2.71	0.14	4.99	6.7		
19/04/2018		<0.001	0.009	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.107	0.023	<0.0005	<0.0005	<0.0005	0.0611	0.002	0.752	<0.0005	0.128	0.0053	<0.0005	<0.0005	<0.0005	<0.0005	0.00	0.08	0.00	1.16		
19/12/2018		<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	<0.050	0.064	<0.020	<0.0200	<0.0200	<0.0200	<0.0200	0.032	0.106	0.42	0.03	0.058	<0.0500	<0.0200	<0.0200	<0.0200	1.03	0.03	1.45	1.77		
29/04/2019		<0.001	0.002	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0013	<0.001	<0.0005	<0.001	0.125	0.045	0.0007	0.0034	<0.0005	0.034	0.0662	0.348	1.07	0.0582	0.125	<0.0005	<0.0005	<0.0005	0.002	1.95	0.09	3.02	3.92		
18/10/2019		<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0019	<0.001	<0.0005	<0.001	0.231	0.034	0.0009	0.0112	<0.0005	0.0503	0.0766	0.447	1.56	0.101	0.213	<0.0005	<0.0005	<0.0005	0.0032	2.23	0.09	3.79	5.05		
29/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.46	0.2	<0.02	<0.02	<0.02	0.13	0.33	1.24	4.52	0.34	0.48	<0.05	<0.02	<0.02	<0.02	7.41	0.28	11.90	15.4		
30/01/2020		<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	<0.1	<0.02	<0.02	<0.02	<0.02	0.03	0.1	0.38	0.09	0.04	<0.05	<0.02	<0.02	<0.02	0.94	0.02	1.32	1.69		
31/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.04	0.07	0.38	1.24	0.11	0											

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSa	EFOSAA	EFOSe	FOSA	MeFOSA	MeFOSAA	MeFOSe	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																														
NHMR - Recreational Use - Surface Water																														

Location ID	Sample Date	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSa	EFOSAA	EFOSe	FOSA	MeFOSA	MeFOSAA	MeFOSe	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS				
SW010	14/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.05	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.11	0.14	0.09	0.03	<0.05	<0.02	<0.02	<0.02	<0.02	0.15	0.04	0.29	0.65			
	17/04/2018	<0.05	0.16	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.13	0.1	<0.02	<0.02	<0.02	0.26	0.03	0.36	0.6	0.31	0.09	<0.05	<0.02	<0.02	<0.02	0.02	1.33	0.27	1.93	3.66			
	17/04/2018	<0.001	0.119	0.003	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0969	<0.002	0.0005	<0.0005	<0.0005	0.26	0.002	0.509	0.152	0.308	0.0482	<0.0005	<0.0005	<0.0005	0.0074	0.00	0.17	0.15	1.68				
	17/12/2018	<0.002	0.023	0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.176	<0.002	0.0028	<0.0020	<0.0020	0.0748	0.0092	0.207	0.717	0.199	0.0356	<0.0050	<0.0020	<0.0020	0.0084	0.17	0.07	0.89	1.7				
	2/05/2019	<0.001	0.124	0.09	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.002	<0.001	<0.0005	<0.001	0.0488	<0.002	0.0082	0.009	0.0006	0.128	0.0368	0.169	0.267	0.12	0.0696	<0.0005	<0.0005	0.0024	0.0519	1.46	0.15	1.73	2.74
	28/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.03	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	0.08	0.14	0.05	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	1.21	0.05	1.35	1.6			
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.18	<0.3	<0.02	<0.02	<0.02	0.03	<0.02	0.12	0.27	<0.08	0.03	<0.05	<0.02	<0.02	<0.02	0.98	0.07	1.25	1.5				
	22/04/2021	<0.05	0.06	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.09	0.1	<0.02	<0.02	<0.02	0.22	0.02	0.31	0.43	0.26	0.07	<0.05	<0.02	<0.02	0.03	0.73	0.22	1.16	2.54				
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.10	<0.01	0.14	0.17			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.05	<0.1	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	0.13	0.19	0.13	0.02	<0.05	<0.02	<0.02	<0.02	0.29	0.08	0.48	0.91			
	17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.12	<0.2	<0.02	<0.02	<0.02	<0.02	0.13	<0.02	0.26	0.43	0.21	0.05	<0.05	<0.02	<0.02	0.03	0.65	0.13	1.08	1.89			
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.1	<0.1	<0.02	<0.02	<0.02	0.07	0.02	0.13	0.31	0.16	0.05	<0.05	<0.02	<0.02	0.02	0.59	0.08	0.9	1.53				
	18/04/2023	<0.05	0.08	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	0.1	<0.02	<0.02	<0.02	0.1	0.03	0.18	0.53	0.18	0.1	<0.05	<0.02	<0.02	0.04	1.06	0.11	1.59	2.63				
	19/04/2023	<0.05	0.13	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.3	0.1	<0.02	<0.02	<0.02	0.1	0.05	0.32	0.84	0.19	0.12	<0.05	<0.02	<0.02	0.05	1.94	0.13	2.78	3.97				
20/04/2023	<0.05	0.17	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.74	0.2	<0.02	<0.02	<0.02	0.15	0.07	0.45	1.27	0.29	0.19	<0.05	<0.02	<0.02	0.06	2.48	0.2	3.75	6.27					
21/04/2023	<0.05	0.09	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.1	<0.02	<0.02	<0.02	0.14	0.08	0.47	1.12	0.33	0.19	<0.05	<0.02	<0.02	0.08	2.81	0.18	3.93	6.12					
SW106	16/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	2.82	0.6	<0.02	<0.02	<0.02	0.76	0.13	7.76	16	1.3	3.41	<0.05	<0.02	<0.02	0.06	11.70	1.18	27.70	45.7					
	25/04/2020	<0.10	<0.10	<0.10	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	<0.10	<0.25	0.1	<0.50	<0.10	<0.10	<0.10	<0.10	0.14	0.69	<0.10	<0.10	<0.25	<0.10	<0.10	<0.10	0.79	<0.10	1.48	1.72					
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.36	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	0.22	<0.01	0.28	0.28					
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.04	<0.1	<0.02	<0.02	<0.02	<0.02	0.02	0.05	0.38	<0.02	0.03	<0.05	<0.02	<0.02	<0.02	0.81	0.01	1.19	1.34				
17/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	<0.02	0.04	0.17	<0.02	0.02	<0.05	<0.02	<0.02	<0.02	0.08	<0.01	0.25	0.37						
SW121	18/12/2018	<0.020	<0.020	<0.020	<0.020	<0.050	<0.0200	<0.050	<0.0200	<0.050	<0.0200	0.288	<0.020	<0.0200	<0.0200	<0.0200	0.026	0.054	0.244	1.16	0.07	0.182	<0.0500	<0.0200	<0.0200	<0.0200	1.15	0.06	2.31	3.24					
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.08	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.29	0.02	0.06	<0.05	<0.02	<0.02	<0.02	0.49	0.02	0.78	1.04					
	21/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.16	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	0.44	<0.08	0.09	<0.05	<0.02	<0.02	<0.02	0.32	<0.01	0.76	1.08					
	18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.48	0.2	<0.02	<0.02	<0.02	<0.02	0.05	0.05	0.48	2.36	0.15	0.42	<0.05	<0.02	<0.02	<0.02	0.9	0.06	3.26	5.15				
	19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.59	0.2	<0.02	<0.02	<0.02	<0.02	0.06	0.05	0.6	2.54	0.2	0.5	<0.05	<0.02	<0.02	<0.02	0.74	0.07	3.28	5.55				
	20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.1	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.09	0.46	0.04	0.06	<0.05	<0.02	<0.02	<0.02	0.68	0.03	1.14	1.46					
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.43	0.2	<0.02	<0.02	<0.02	<0.02	0.04	0.05	0.38	1.8	0.18	0.32	<0.05	<0.02	<0.02	0.73	0.06	2.53	4.19						
22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.55	0.2	<0.02	<0.02	<0.02	<0.02	0.06	0.06	0.58	2.3	0.2	0.42	<0.05	<0.02	<0.02	0.73	0.07	3.03	5.17						
SW132	1/03/2018	<0.002	0.193	0.042	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	1.75	0.148	<0.0020	<0.0020	<0.0020	1.13	0.97																

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FIS	8:2 FTS	10:2 FTS	EFOSa	EFOSAA	EFOSe	FOSA	MeFOSA	MeFOSAA	MeFOSe	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS					
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L						
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01					
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																																0.13	220		
NHMR - Recreational Use - Surface Water																																10	2		
Location ID	Sample Date																																		
On-Base - Three Mile Creek Catchment																																			
SW102	18/08/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.14	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.54	0.02	0.06	<0.05	<0.02	<0.02	<0.02	<0.02	0.38	<0.01	0.92	1.2		
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0226	<0.002	<0.0020	<0.0020	<0.0020	0.0032	0.0078	0.0302	0.204	<0.0020	0.0196	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.33	0.01	0.53	0.627		
	2/03/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.023	0.117	<0.0020	<0.0020	<0.0020	0.0034	0.0094	0.035	0.205	<0.0020	0.0224	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.36	0.01	0.57	0.793			
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.014	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.037	0.129	<0.0100	0.013	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.31	<0.0100	0.44	0.501		
	3/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.018	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.013	0.063	0.201	<0.0100	0.018	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.37	0.02	0.57	0.702			
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0264	0.004	<0.0005	<0.0005	<0.0005	0.006	0.0164	0.0471	0.281	0.0098	0.0199	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.51	0.02	0.79	0.94			
	4/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0223	0.003	<0.0005	<0.0005	<0.0005	0.0051	0.0109	0.0416	0.198	0.0082	0.0169	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.47	0.02	0.67	0.794			
	5/03/2018	<0.010	<0.010	<0.010	<0.010	<0.025	<0.0100	<0.025	<0.0100	<0.025	<0.0100	<0.025	0.021	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.018	0.055	0.237	<0.0100	0.019	<0.0250	<0.0100	<0.0100	<0.0100	<0.0100	0.53	0.02	0.76	0.898			
	5/03/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0442	<0.002	<0.0005	<0.0005	<0.0005	0.0088	0.0169	0.0414	0.166	<0.0005	0.0292	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.66	0.03	0.82	0.991			
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.16	0.68	0.04	0.1	<0.05	<0.02	<0.02	<0.02	<0.02	0.70	0.02	1.38	1.82			
	16/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	0.04	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.19			
	17/12/2018	<0.002	<0.002	<0.002	<0.002	<0.005	<0.0020	<0.005	<0.0020	<0.005	<0.0020	<0.005	0.0282	<0.002	<0.0020	<0.0020	<0.0020	0.0024	0.0096	0.0282	0.153	0.0112	0.0128	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	0.26	0.01	0.41	0.513			
	10/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.295	<0.002	<0.0005	<0.0005	<0.0005	0.04	0.04	0.383	1.26	0.0919	0.234	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.47	0.04	1.73	2.87			
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.36	0.2	-	-	-	0.0519	0.0408	0.69	1.44	0.12	0.25	-	-	-	-	-	0.67	0.05	2.11	3.86			
	17/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.2	<0.02	<0.02	<0.02	0.04	0.04	0.87	1.85	0.16	0.26	<0.05	<0.02	<0.02	<0.02	<0.02	0.62	0.06	2.47	4.48			
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.54	<0.3	-	-	-	0.05	0.05	0.9	1.97	0.18	0.32	-	-	-	-	-	0.71	0.07	2.68	4.94			
	29/01/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.16	0.03	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.42	<0.01	0.58	0.63			
	29/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.27	<0.2	<0.02	<0.02	<0.02	0.02	0.04	0.35	1.77	0.1	0.24	<0.05	<0.02	<0.02	<0.02	<0.02	0.78	0.04	2.55	3.61			
	9/09/2020	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	4.29	1.6	<0.05	<0.05	<0.05	0.27	0.12	4.74	10.5	0.98	2.32	<0.12	<0.05	<0.05	<0.05	<0.05	1.19	0.24	11.70	26.2			
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.8	0.1	<0.02	<0.02	<0.02	0.1	0.08	1.22	3.75	0.19	0.79	<0.05	<0.02	<0.02	<0.02	0.90	0.09	4.65	8.02				
	7/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	2.27	0.3	<0.02	<0.02	<0.02	0.16	0.13	2.88	5.99	0.38	1.48	<0.05	<0.02	<0.02	<0.02	<0.02	1.18	0.18	7.17	15			
	13/04/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.64	0.2	<0.02	<0.02	<0.02	0.05	0.08	0.72	2.91	0.13	0.52	<0.05	<0.02	<0.02	<0.02	1.70	0.11	4.61	7.06				
	17/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.19	<0.1	<0.02	<0.02	<0.02	0.03	0.04	0.22	0.91	0.06	0.18	<0.05	<0.02	<0.02	<0.02	0.68	0.04	1.59	2.35				
18/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.33	<0.1	<0.02	<0.02	<0.02	<0.02	<0.04	0.05	0.42	1.3	0.09	0.26	<0.05	<0.02	<0.02	<0.02	1.05	0.04	2.35	3.54				
19/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.28	<0.1	<0.02	<0.02	<0.02	0.04	0.05	0.39	1.46	0.09	0.25	<0.05	<0.02	<0.02	<0.02	0.88	0.04	2.34	3.48					
20/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.41	<0.1	<0.02	<0.02	<0.02	0.06	0.06	0.59	2.06	0.12	0.34	<0.05	<0.02	<0.02	<0.02	0.84	0.06	2.9	4.54					
21/04/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.51	0.1	<0.02	<0.02	<0.02	0.07	0.09	0.73	2.77	0.16	0.43	<0.05	<0.02	<0.02	<0.02	1.1	0.07	3.87	6.03					
Off-Base Bohle River/Louisa Creek/Town Common																																			
SW017	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.11	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	0.13	0.02	0.24	0.29		
	11/04/2018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0048	0.0088	0.0023	0.0007											

T9: Historical Surface Water PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EtFOSA	EtFOSAA	EtFOSE	FOSA	MeFOSA	MeFOSAA	MeFOSE	PFBS	PFBA	PFDA	PFDS	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTiDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
LOR	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.1	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	
PFAS NEMP Fresh Water and Marine Water 95% Species Protection Values																															
NHMRC - Recreational Use - Surface Water																															
Location ID	Sample Date																														
SW119	20/04/2018	<0.001	0.039	<0.001	<0.001	<0.001	<0.0005	<0.001	0.0042	<0.001	<0.0005	<0.001	3.93	0.496	0.0009	0.0249	<0.0005	1.56	0.87	10.4	21.1	1.62	3.85	<0.0005	<0.0005	<0.0005	0.0622	14.70	2.68	35.80	61.3
	13/12/2018	<0.002	0.012	0.019	<0.002	<0.005	<0.0020	<0.005	0.0052	<0.005	<0.0020	<0.005	0.604	0.082	0.0048	0.0036	<0.0020	0.208	0.243	0.972	3.15	0.291	0.418	<0.0050	<0.0020	<0.0020	0.0654	4.57	0.39	7.72	11
	8/05/2019	<0.001	0.03	0.005	<0.001	<0.001	<0.0005	0.001	0.0079	<0.001	<0.0005	<0.001	5.25	0.417	0.003	0.0494	<0.0005	1.56	1.5	12.7	25	2.28	5.55	<0.0005	<0.0005	<0.0005	0.16	36.10	3.58	61.10	94.2
	24/10/2019	<0.001	0.021	0.001	<0.001	<0.001	<0.0005	<0.001	0.0009	<0.001	<0.0005	<0.001	0.341	0.059	0.0006	0.0029	<0.0005	0.138	0.125	0.883	2.27	0.184	0.413	<0.0005	<0.0005	<0.0005	0.0029	2.20	0.19	4.47	6.84
	16/04/2020	<0.05	<0.05	<0.05	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	<0.05	<0.13	0.84	<0.2	<0.05	<0.05	<0.05	0.28	0.32	1.82	5.19	0.4	0.89	<0.13	<0.05	<0.05	<0.05	5.41	0.64	10.60	15.8
	23/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.36	<0.3	<0.02	<0.02	<0.02	0.11	0.18	0.84	2.95	0.15	0.42	<0.05	<0.02	<0.02	<0.02	6.02	0.21	8.97	11.2
	22/04/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.06	<0.1	<0.02	<0.02	<0.02	0.02	<0.02	0.11	0.26	0.03	0.05	<0.05	<0.02	<0.02	<0.02	0.47	0.03	0.73	1.03
	6/10/2021	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	1.12	0.3	<0.02	<0.02	<0.02	0.29	0.42	2.42	5.08	0.4	1.2	<0.05	<0.02	<0.02	0.03	5.69	0.49	10.80	17.4
	11/04/2022	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	1.09	<0.2	<0.05	<0.05	<0.05	0.34	0.34	2.31	5.35	0.49	0.91	<0.12	<0.05	<0.05	<0.05	8.67	0.69	14.00	20.2
	7/10/2022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.53	0.1	<0.02	<0.02	<0.02	0.14	0.2	0.84	2.51	0.24	0.45	<0.05	<0.02	<0.02	0.02	5.37	0.28	7.88	10.7
22/04/2023	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	<0.05	<0.12	2.91	0.9	<0.05	<0.05	<0.05	1.37	1.12	7.52	16.8	1.54	3.04	<0.12	<0.05	<0.05	<0.05	19.5	2.37	36.3	57.1	
SW208	17/07/2017	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	0.02	0.02
	10/04/2018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0428	<0.002	<0.0005	<0.0005	<0.0005	0.0148	0.0128	0.0681	0.191	0.0171	0.0367	<0.0005	<0.0005	<0.0005	0.0013	0.37	0.03	0.56	0.78
	12/12/2018	<0.001	0.005	0.004	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0646	<0.002	0.0019	0.0021	<0.0005	0.0098	0.012	0.0892	0.249	0.0232	0.0376	<0.0005	<0.0005	0.0005	0.003	0.36	0.02	0.61	0.874
	7/05/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0612	<0.002	<0.0005	<0.0005	<0.0005	0.0195	0.0151	0.124	0.239	0.0057	0.0597	<0.0005	<0.0005	<0.0005	0.0015	0.34	0.04	0.58	0.9
	24/10/2019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.0005	<0.001	<0.0005	<0.001	0.0029	<0.002	<0.0005	<0.0005	<0.0005	0.0006	0.0021	0.0032	0.0111	<0.0005	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.02	0.00	0.04	0.0478
	15/04/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	0.12	<0.1	<0.02	<0.02	<0.02	0.04	0.04	0.29	0.6	0.05	0.1	<0.05	<0.02	<0.02	<0.02	0.84	0.07	1.44	2.15
	21/09/2020	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFxA	PFHxS	PFPA	PFPeS	PFTaDA	PFTDA	PFUnDA	PFNA	PFOS	PFPA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHs	PFxA	PFHxS	PFPA	PFPeS	PFTaDA	PFTDA	PFUnDA	PFNA	PFOS	PFPA	Sum of PFOS and PFHxS	Sum of PFAS		
SD013	9/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0007	0.0092	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0569	0.0007	0.0661	0.069	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.001	0.006	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.103	0.0006	0.109	0.112	
	19/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.0002	0.0021	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0247	<0.0002	0.0268	0.0277	
	30/04/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0016	0.0057	0.0003	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0222	0.0003	0.0279	0.0321	
	18/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0044	0.004	<0.0002	0.001	<0.0002	0.0015	0.0026	0.0122	0.0371	0.0023	0.0056	<0.0005	<0.0002	<0.0002	0.0003	0.124	0.0034	0.161	0.198		
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0008	0.0008	0.0059	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0451	0.0003	0.051	0.0541	
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	0.001	0.0057	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0215	0.0004	0.0272	0.0305		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	0.0009	<0.0002	<0.0002	0.001	0.0005	0.0075	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0638	0.0005	0.0713	0.0748		
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	0.0009	0.0077	<0.0004	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0342	0.0004	0.0419	0.0457		
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0006	<0.0002	<0.0002	0.001	0.0014	0.0093	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0594	0.0006	0.0687	0.0741		
	17/10/2022	<0.002	<0.002	<0.002	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	<0.002	<0.0049	0.0028	<0.01	0.0091	<0.002	<0.002	<0.002	0.0107	0.0089	0.0807	<0.002	0.0057	<0.0049	<0.002	<0.002	<0.002	<0.002	0.669	0.0024	0.75	0.789	
	20/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0004	0.0032	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0243	<0.0002	0.0275	0.0288		
	SD014	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0014	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0052	0.0003	0.0066	0.0077
		19/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0002
		12/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.0034	0.0038
3/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0019	<0.0002	0.0023	0.0023	
24/10/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0005	0.0005		
28/04/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
24/09/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
22/04/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
7/10/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.001	0.001	
13/04/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004	
7/10/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.0005	0.0149	0.0149	
12/12/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.0032	0.0039	
21/04/2023		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	&						

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD123	7/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0102	<0.0005	<0.0002	<0.0005	0.0153	0.006	0.0008	0.0054	0.0024	0.0066	0.0454	0.058	0.183	0.0126	0.0255	<0.0005	0.0005	0.0006	0.0009	2.75	0.0245	2.93	3.15	
	7/06/2017	<0.0025	<0.0025	<0.0025	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	<0.0025	<0.0062	0.0025	0.022	<0.0025	<0.0025	0.0025	0.0089	0.0292	0.0651	0.173	0.0182	0.0194	<0.0062	<0.0025	0.003	0.0034	1.3	0.0169	1.47	1.68	
	18/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0027	0.001	<0.0002	0.003	<0.0002	0.0008	0.0018	0.007	0.0218	0.0018	0.0027	<0.0005	<0.0002	<0.0002	<0.0002	0.127	0.0018	0.15	0.18	
	18/04/2018	-	-	-	-	-	-	-	0.004	-	-	-	0.0028	0.005	0.0027	0.0061	0.0005	0.0077	-	0.0304	0.0235	0.0069	0.0033	-	-	0.0007	0.0056	0.208	0.0214	0.23	0.322	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.001	<0.0005	<0.0002	<0.0005	0.001	<0.001	0.0002	0.0048	0.0004	0.0002	0.0012	0.0022	0.0052	0.0006	0.0007	<0.0005	<0.0002	0.0004	0.0003	0.157	0.0007	0.162	0.176	
	1/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0014	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0002	0.0019	<0.0002	0.0004	0.0011	0.0019	0.0087	0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0476	0.0005	0.0563	0.0661	
	18/10/2019	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0003	<0.0005	0.0099	<0.0005	0.0003	<0.0005	0.0115	0.005	0.0004	0.0048	0.0007	0.003	0.0111	0.0262	0.0809	0.0075	0.0122	<0.0005	0.0004	0.0003	0.0009	0.522	0.0076	0.603	0.706	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.0016	0.0013	0.0138	<0.0005	0.0009	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.184	0.0009	0.198	0.203
	10/09/2020	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.001	<0.0025	0.0058	<0.0025	<0.001	<0.0025	0.0014	<0.005	0.0011	<0.001	<0.001	<0.001	0.0039	0.0025	0.022	<0.001	0.0012	<0.0025	<0.001	<0.001	0.243	0.0017	0.265	0.283		
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0027	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	0.0077	0.0004	0.0002	0.0027	0.0021	0.0168	0.0005	0.0011	<0.0005	<0.0002	0.0003	<0.0002	0.142	0.0012	0.159	0.178	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0042	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	0.0049	<0.0005	<0.0005	0.001	0.0012	0.005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	0.152	<0.0005	0.157	0.168	
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0039	<0.0012	<0.0005	<0.0012	<0.0005	<0.002	<0.0005	0.0048	<0.0005	<0.0005	<0.0005	0.0019	0.0086	<0.0005	0.0007	<0.0012	<0.0005	<0.0005	<0.0005	0.142	0.0006	0.151	0.158	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0042	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0062	<0.0002	0.0005	<0.0002	0.0006	0.0012	0.0039	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0532	0.0003	0.0571	0.0709	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0005	<0.0013	0.0012	<0.0013	<0.0005	<0.0013	<0.0018	<0.002	<0.0005	<0.004	<0.0005	0.001	0.0033	0.0045	0.0225	0.0014	0.0021	<0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.291	0.0018	0.314	0.329
	SD125	17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0017	0.0175	0.0185	0.124	0.0022	0.0064	<0.0025	<0.0010	<0.0010	<0.0010	0.818	0.0056	0.942	1
17/12/2018		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0006	<0.0002	0.0002	0.0038	0.0032	0.0214	0.0003	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.147	0.0012	0.168	0.179	
1/05/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	0.0004	<0.0002	0.0006	0.0028	0.0062	0.0202	0.0011	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.109	0.0017	0.129	0.145	
15/10/2019		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0004	<0.0005	<0.0002	<0.0005	0.0048	<0.001	<0.0002	<0.0002	<0.0002	0.001	0.005	0.0159	0.0542	0.0027	0.005	<0.0005	<0.0002	<0.0002	<0.0002	0.224	0.0038	0.278	0.317	
27/04/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0006	<0.002	<0.0005	<0.0005	<0.0005	0.001	0.0012	0.01	<0.0005	0.0006	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.088	<0.0005	0.098	0.101	
7/09/2020		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0012	<0.0005	<0.0002	<0.0005	0.001	<0.002	0.0047	<0.0002	<0.0002	0.0002	0.0014	0.0028	0.0109	0.0007	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.306	0.0007	0.317	0.331	
22/04/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0002	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0005	<0.0002	0.0005	0.0019	0.0092	0.0248	0.0013	0.0025	<0.0005	<0.0002	<0.0002	<0.0002	0.0534	0.0013	0.0782	0.0971	
7/10/2021		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	0.0008	<0.0012	<0.0005	<0.0012	0.0019	<0.002	<0.0005	0.0022	<0.0005	<0.0005	0.0015	0.0041	0.0162	0.0005	0.0019	<0.0012	<0.0005	<0.0005	<0.0005	0.155	<0.0005	0.171	0.184	
13/04/2022		<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	0.0009	<0.002	0.0069	<0.0005	<0.0005	<0.0005	0.0031	0.0034	0.038	<0.0005	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	0.327	0.0013	0.365	0.382	
17/10/2022		<0.0049	<0.0049	<0.0049	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	<0.0049	<0.0123	0.258	0.038	<0.0049	<0.0049	<0.0049	0.0868	0.23	0.849	3.54	0.108	0.389	<0.0123	<0.0049	<0.0049	<0.0049	3.18	0.159	6.72	8.84	
12/12/2022		<0.0026	<0.0026	<0.0026	<0.0026	<0.0064	<0.0026	<0.0064	0.0127	<0.0064	<0.0026	<0.0064	0.0098	<0.013	0.0505	<0.0026	<0.0026	0.0029	0.0122	0.024	0.0931	0.0034	0.0093	<0.0064	<0.0026	<0.0026	<0.0026	2.31	0.0044	2.4	2.53	
21/04/2023		<0.0248	<0.0248	<0.0248	<0.0248	<0.0619	<0.0248	<0.0619	0.0971	<0.0619	<0.0248	<0.0619	0.056	<0.124	<0.0248	<0.0248	<0.0248	0.0411	0.0411	0.321	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	<0.0248	9.46	<0.0248	9.78	10	
SD126		6/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0005	<0.0002	0.0009	0.0013	0.0101	<0.0002	0.0008	<0.0005	<0.0002	<0.0002	<0.0002	0.0699	0.0009	0.08	0.0848	
		17/04/2018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010																								

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD121	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.001	0.0002	0.0002	0.0004	0.0012	0.0044	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0539	0.0006	0.0583	0.0636	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	0.0003	0.0098	0.0008	<0.0002	0.0008	0.0002	0.004	<0.0002	0.0003	<0.0005	0.0003	<0.0002	<0.0002	0.0857	<0.0002	0.0897	0.102	
	21/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0049	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0415	<0.0002	0.0464	0.0482	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0032	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0281	<0.0002	0.0313	0.0316	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0002	0.0007	0.0012	0.0095	<0.0002	<0.0002	<0.0002	<0.0002	0.0503	0.0005	0.0598	0.0656	
SD132	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.002	0.004	0.0003	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0152	0.0007	0.0192	0.0233	
	28/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0008	<0.001	<0.0002	<0.0002	<0.0002	0.0004	0.0005	0.002	0.0052	0.0003	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0188	0.0009	0.024	0.0302	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0009	0.0039	<0.0002	0.0015	<0.0005	<0.0002	<0.0002	<0.0002	0.0129	0.0004	0.0168	0.0194	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.0002	0.0009	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0087	0.0002	0.0096	0.0104	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0015	0.0048	0.0002	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.0025	0.0008	0.0298	0.0343	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0007	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0086	<0.0002	0.0093	0.0093
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0004	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0033	<0.001	<0.0004	<0.0024	0.0008	0.0013	0.0017	0.0074	0.0246	0.0016	0.0032	<0.0005	<0.0006	<0.0006	<0.0004	0.108	0.0034	0.133	0.155	
On-Base - Three Mile Creek Catchment																																
SD102	13/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0033	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0013	0.0025	0.0378	<0.0002	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.0333	0.0003	0.0711	0.0803	
	11/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0017	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0192	<0.0002	0.0209	0.0209	
	17/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0013	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0113	<0.0002	0.0126	0.0126	
	17/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0123	<0.0002	0.0131	0.0134	
	10/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0004	0.0036	<0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.0138	<0.0002	0.0174	0.0188	
	10/05/2019	-	-	-	-	-	-	-	-	-	-	-	0.0005	-	-	-	-	-	-	0.0003	0.0007	0.0043	-	0.0004	-	-	-	0.0158	-	0.0201	0.0217	
	17/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0008	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	0.0052	0.002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0021	0.0068	0.0413	0.001	0.0044	<0.0006	<0.0002	<0.0002	0.119	0.0014	0.16	0.186	
	17/10/2019	-	-	-	-	-	-	-	-	-	-	-	0.0056	0.004	-	-	-	-	0.0008	0.0024	0.0097	0.0475	0.0019	0.0049	-	-	-	0.124	0.0019	0.172	0.2	
	29/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0004	0.0005	0.0004	0.0033	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0196	<0.0002	0.0229	0.0245	
	9/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	0.0233	0.007	<0.0002	<0.0002	<0.0002	0.002	0.0039	0.0257	0.107	0.004	0.0167	<0.0006	<0.0002	<0.0002	<0.0002	0.0948	0.0036	0.202	0.288	
	22/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	0.0017	<0.0002	<0.0002	0.0005	0.0014	0.0094	<0.0002	0.0006	<0.0005	<0.0002	<0.0002	<0.0002	0.0489	0.0004	0.0583	0.0636	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0077	0.003	<0.0002	0.0027	<0.0002	<0.0002	0.0011	0.0059	0.0117	0.0903	0.0015	0.0099	<0.0005	<0.0002	<0.0002	0.0219	0.0026	0.309	0.355	
	13/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0048	<0.001	0.0003	<0.0002	<0.0002	0.0004	0.0017	0.0055	0.0311	0.0008	0.0035	<0.0005	<0.0002	<0.0002	<0.0002	0.129	0.003	0.16	0.18	
	17/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0377	0.01	0.0034	<0.0002	<0.0002	<0.0002	0.0035	0.0032	0.0754	0.136	0.0097	0.0279	<0.0005	<0.0002	<0.0002	0.122	0.0031	0.258	0.432	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002</																							

T10: Historical Sediment PFAS Analytical Results

Units	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFOA	Sum of PFAS		
SD109	18/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0039	0.0004	0.0043	0.0047	
	3/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0012	<0.0002	0.0012	0.0012
	6/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0002
	22/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
	15/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0085	0.0005	0.0093	0.0098
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0006	0.0006
	20/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0006	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0004	0.0007	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0086	0.001	0.0093	0.0109
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0004	0.0004	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002
7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0035	<0.0002	0.0035	0.0035	
21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0072	0.0002	0.0075	0.0077	
SD113	12/06/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0028	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0023	0.0047	<0.0002	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	0.0052	0.0117	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0026	<0.001	<0.0002	<0.0002	<0.0002	0.0012	0.0032	0.0062	0.0384	0.0012	0.0019	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.205	0.0033	0.243	0.263	
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0014	<0.001	<0.0002	<0.0002	<0.0002	0.0013	0.0003	0.0011	0.002	0.0145	0.0004	0.0016	<0.0005	<0.0002	<0.0002	<0.0002	0.0656	0.0009	0.0801	0.0893	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	0.001	<0.0002	<0.0002	<0.0002	0.001	0.0047	0.006	0.0394	0.0008	0.0047	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.218	0.003	0.257	0.282	
	16/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	<0.0002	<0.0002	0.0005	0.0003	0.0009	0.0022	0.0092	0.0003	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.0539	0.0005	0.0631	0.07	
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	<0.0012	<0.0005	0.0017	<0.002	<0.0005	<0.0005	<0.0005	0.0011	0.0035	0.014	0.0011	0.0015	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005	0.0432	0.0011	0.0572	0.0672	
	6/05/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0006	<0.001	<0.0002	<0.0002	<0.0002	0.0023	0.0002	0.0009	0.0011	0.0066	0.0003	0.0007	<0.0005	<0.0002	<0.0002	<0.0002	0.093	0.0004	0.0996	0.106	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0007	0.0031	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0158	<0.0002	0.0189	0.0208	
	12/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0012	<0.001	<0.0016	<0.0002	<0.0002	0.002	0.0017	0.0202	<0.0004	0.0015	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.138	0.0008	0.158	0.165		
	7/10/2022	<0.001	<0.001	<0.001	<0.001	<0.0024	<0.001	<0.0024	<0.001	<0.0024	<0.001	<0.0024	0.0031	<0.005	<0.001	<0.001	<0.001	<0.001	0.0041	0.0058	0.0428	0.0031	0.004	<0.0024	<0.001	<0.001	<0.001	<0.001	0.162	0.0022	0.205	0.227	
3/05/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0002	0.0014	0.0016	0.0136	0.0002	0.0012	<0.0005	<0.0002	<0.0002	<0.0002	0.0661	0.0008	0.0797	0.0863		
SD114	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.0006	<0.0002	<0.001	<0.0002	<0.0002	0.0003	<0.0002	0.0003	0.0004	0.001	<0.0002	<0.0002	<0.0006	<0.0002	<0.0002	<0.0002	0.0004	0.0096	<0.0002	0.0106	0.0119	
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002						

T10: Historical Sediment PFAS Analytical Results

	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	0.0005	0.0005	0.0005	0.0005	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.0005	0.0002	0.001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002

Location ID	Sample Date	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	EFOSA	EFOSAA	EFOSE	FOSA	MeFOSA	MFOSAA	MeFOSE	PFBS	PFBA	PFDS	PFDA	PFDoDA	PFHpA	PFHpS	PFHxA	PFHxS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFUnDA	PFNA	PFOS	PFOA	Sum of PFOS and PFHxS	Sum of PFAS	
SD118	17/07/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0012	0.0052	<0.0002	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0171	0.0008	0.0223	0.0264
	10/04/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	0.0008	<0.0002	0.0003	0.0006	0.0013	0.006	0.0002	0.0003	<0.0005	<0.0002	<0.0002	<0.0002	0.047	0.001	0.053	0.058	
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.001	<0.0002	0.0005	<0.0002	<0.0002	0.0002	0.0016	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0094	<0.0002	0.011	0.0117	
	8/05/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0009	<0.001	<0.0002	0.0006	<0.0002	0.0003	0.0005	0.002	0.0067	0.0004	0.001	<0.0005	<0.0002	<0.0002	<0.0002	0.0176	0.001	0.0243	0.031	
	24/10/2019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.007	0.005	<0.0002	0.0009	<0.0002	0.0007	0.0005	0.015	0.008	0.0041	0.0037	<0.0005	<0.0002	<0.0002	<0.0002	0.0444	0.0011	0.0524	0.0904	
	16/04/2020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	<0.0010	<0.0025	0.0061	<0.001	<0.0010	<0.0010	<0.0010	0.0032	0.0055	0.0157	0.0614	0.002	0.0072	<0.0025	<0.0010	<0.0010	<0.0010	0.232	0.0107	0.293	0.344	
	21/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0005	<0.0005	<0.0002	<0.0005	0.0008	<0.001	0.0011	<0.0002	0.0003	0.0003	0.0016	0.0015	0.0078	0.0004	0.0007	<0.0005	<0.0002	<0.0002	0.0003	0.115	0.001	0.123	0.131	
	16/04/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0004	<0.001	<0.0002	0.0004	<0.0002	0.0002	0.0003	0.0011	0.0027	0.0003	0.0005	<0.0005	<0.0002	<0.0002	<0.0002	0.0185	0.0004	0.0212	0.0248	
	7/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0016	<0.0005	<0.0002	<0.0005	0.0017	<0.001	<0.0002	0.0051	0.0005	0.0008	0.0023	0.0039	0.0157	0.0007	0.0022	<0.0005	0.0002	0.0002	0.0005	0.162	0.0021	0.178	0.2	
	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.0011	<0.0005	<0.0002	<0.0005	0.0017	<0.001	0.0042	<0.0002	<0.0004	0.0004	0.0018	0.0033	0.0125	<0.0012	0.0018	<0.0005	<0.0002	<0.0002	<0.0002	0.128	0.0016	0.14	0.156	
	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.001	<0.0004	<0.002	0.0016	<0.0004	<0.0004	<0.0004	0.0011	0.0009	0.0085	<0.0004	0.0007	<0.001	<0.0004	<0.0004	<0.0004	0.0778	0.0012	0.0863	0.0918	
	21/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	0.001	<0.0005	<0.0002	<0.0005	0.0036	<0.001	<0.0002	0.003	0.0005	0.0017	0.0041	0.0073	0.0286	0.0014	0.0039	<0.0005	0.0002	<0.0002	0.0004	0.254	0.0047	0.283	0.314	
SD119	16/08/2017	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0007	<0.001	<0.0002	<0.0002	<0.0002	0.0002	0.0025	0.0016	0.0234	<0.0002	0.0013	<0.0005	<0.0002	<0.0002	<0.0002	0.187	0.0008	0.21	0.218	
	13/12/2018	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	0.0017	<0.0002	0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0035	<0.0002	0.0052	0.0062	
	16/04/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0003	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0009	0.0033	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	0.0002	0.0215	0.0008	0.0248	0.0278
	23/09/2020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	0.0037	<0.0002	0.0042	0.0042	
	6/10/2021	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0016	<0.001	<0.0002	<0.0002	<0.0002	0.0005	0.0004	0.0035	0.0077	0.0006	0.0014	<0.0005	<0.0002	<0.0002	<0.0002	0.0058	0.0008	0.0135	0.0223	
	11/04/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	0.0005	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	0.0009	0.0035	<0.0002	0.0004	<0.0005	<0.0002	<0.0002	<0.0002	0.0244	0.0005	0.0279	0.0308	
	7/10/2022	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.003	<0.0002	0.003	0.003	
	22/04/2023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0006	0.0006	

Appendix C

Data Validation

DATA VALIDATION REPORT

Project No.:	60612487	Validation by: [REDACTED]	Date: 17/05/2023
Client:	Department of Defence		
Site:	RAAF Townsville (0874)		
Matrix type:	Groundwater, surface water, sediment	Data verified by: [REDACTED]	Date: 1/08/2023
No. of primary samples:	105 groundwater, 116 surface water, 40 sediment (April-May 2023)		
Laboratory:	ALS (Brisbane/Townsville), Eurofins (Brisbane)	Project Manager: CJ	
Lab reference:	EB2311297, EB2311298, EB2311697, ET2302220, ET2302221, ET2302222, ET2302250, ET2302252, ET2302407, 982496, 986709		
Key Issues:	<p>Detection of PFAS compounds in the trip blank sample (0874_QC552_230505) submitted with batch 986709 was identified in the laboratory dataset that could impact data interpretation and therefore decision-making on the project for samples collected within batch 986709, namely the triplicate samples QC206, QC207, QC208, QC209, QC210, QC211, QC212, QC213, QC214, QC215, QC217, QC218, QC219, QC220, QC221, QC222, QC223 and QC224.</p> <p>The data are considered appropriate for use to meet the project objectives.</p>		
Field QA/QC			
Sampling personnel	Sampling was conducted by AECOM personnel from 11 April 2023 to 4 May 2023.		
Sampling Methodology	Groundwater, surface water and sediment samples were collected using appropriate methods as identified within the main body of the report. Hydrasleeves were installed in the well for a minimum of 24 hours prior to collection. Surface water samples were collected from immediately below the water surface. Sediment samples were collected from within the water body, where possible.		
Chain of Custody (COC)	COC documents completed as per AECOM procedures.		
Rinsate Blank	Rinsate blank samples were collected at a frequency of one per day per piece of equipment that was decontaminated (eighteen in total). Concentrations of all analytes tested were reported below the LOR for rinsate samples (refer Table C1 attached).		
Trip Blanks	<p>Trip blank samples were not submitted to the laboratory at a rate of one per batch of primary samples delivered to the laboratory due to an oversight by field staff. One trip blank was submitted for batch 986709, two in batch ET2302407, one in EB2311298 (four in total). Concentrations were reported below the LOR for all analytes tested in the trip blanks, except for:</p> <ul style="list-style-type: none"> 0874_QC552_230505, which had detections for: PFHxA, PFHxS, PFOS, and PFOA <p>(Refer Table C1 attached). The laboratory which analysed this trip blank was not the laboratory that supplied it and therefore further actions were unable to be taken.</p>		
Eskies to Laboratory	A total of seven eskies of samples in four deliveries were submitted to ALS and two eskies were submitted to Eurofins across the April/May 2023 sampling event.		

Frequency of field QC	<p>Field duplicates (intra-laboratory duplicates) and triplicates (inter-laboratory duplicates) were collected at a target frequency of one in ten primary samples. Target frequencies were met for all matrices with the following frequencies:</p> <ul style="list-style-type: none"> • Eleven duplicates and triplicates for groundwater (10.48%) • Fourteen duplicates and triplicates for surface water (12.07%) • Five duplicates and triplicates for sediment (12.50%)
Handling and preservation	<p>Primary, duplicate, and triplicate samples were received, preserved, and chilled at the laboratory. Sample receipt temperature was reported between 1.2°C and 16°C with attempt to chill evident with the exception of batch 982496 where the temperature was not recorded by the laboratory and no attempt to chill was recorded however the samples were noted as being received in good condition. The samples were stored in the AECOM fridge prior to direct delivery to the laboratory.</p> <p>All samples were received at the laboratory in appropriate sample containers with no sample container / preservation non-compliances noted. Upon receipt at the laboratory the samples were chilled prior to analysis.</p>
Equipment Calibration	<p>Calibration of the water quality meter was conducted each day before sampling, see Appendix F.</p>
Laboratory QA/QC	
Tests requested/reported	<p>Samples were analysed and reported as requested on the COC. QC200 was misread as QC206 initially and the error was identified and amended by the laboratory prior to sample analysis. QC200 was subsequently put on hold to avoid any discrepancies.</p>
Holding time compliance	<p>Samples were extracted and analysed within recommended holding times.</p>
Laboratory Accreditation	<p>The laboratory analysis was conducted by ALS Environmental Pty Ltd (Brisbane) a National Association of Testing Authorities (NATA) accredited laboratory. The triplicate samples were analysed at the Eurofins (Brisbane) also a NATA accredited laboratory.</p>
Frequency of laboratory QC	<p>The laboratory reported sufficient frequency of quality control samples to assess whether the results have been reported to an acceptable accuracy and precision.</p>
Method Blank	<p>No method blank value outliers were reported.</p>
Laboratory duplicate RPDs	<p>Laboratory duplicate Relative Percentage Differences (RPD) were within control limits for all samples with the exception of</p> <ul style="list-style-type: none"> • 0874_SD001_230420 in batch ET2302221 for PFHxS (31.2 %) and PFOS (24.3 %) with RPD exceeding LOR based limits. This is the same sample noted in batch ET2302222. • 0874_SD110_230503 in batch ET2302407 for PFHxA (37.3 %) with RPD exceeding LOR based limits. <p>It was noted both 0874_SD001_230420 and 0874_SD110_230503 had poor duplication due to sample heterogeneity.</p>
Laboratory control spike (LCS) recovery	<p>All LCS recoveries were reported within acceptable limits, except QC-5038850 in batch ET2302407 10:2 Fluorotelomer Sulfonic Acid (10:2 FTS) reported spike recovery (%) above the acceptable limits. This indicates that 10:2 FTS concentrations may be reported higher than their true value and is reflected in the high concentrations reported for SW132. No detections were found for samples in ET2302407 and therefore the dataset is not affected by the reported spike recovery (%) above the acceptable limits.</p>
Matrix spike recovery	<p>All matrix spike (MS) recoveries were within control limits, except:</p> <ul style="list-style-type: none"> • 0874_SW132_230418 in batch EB2311697 for Perfluoroalkyl Sulfonic Acids PFBS, PFPeS, PFHxS, and PFOS, and Perfluoroalkyl Carboxylic Acids PFHxA and PFOA where the recovery was not determined, due to the background level greater than or equal to 4x spike level. • 0874_SW010_230420 in batch ET2302220 for Perfluoroalkyl Sulfonic Acids PFHxS and PFOS and 0874_SW118_230422 for PFOS where the recovery was not determined, due to the background level greater than or equal to 4x spike level.

- An anonymous sample in batch ET2302252 Perfluoroalkyl Sulfonic Acid PFOS where the recovery was not determined, due to the background level greater than or equal to 4x spike level.
- 0874_SD019_230421 in batch ET2302221 for Perfluoroalkyl Sulfonic Acids PFBS, PFPeS, PFHxS, PFHpS, and PFOS, and Perfluoroalkyl Carboxylic Acids PFHxA and PFOA where the recovery was not determined, due to the background level greater than or equal to 4x spike level.
- Anonymous water samples in batch ET2302221 and ET2302250 for (n:2) Fluorotelomer Sulfonic Acid 6:2 FTS where the recovery was not determined, due to the background level greater than or equal to 4x spike level.
- Anonymous solid samples in batch ET2302221 for PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFHxA and PFOA where the recovery was not determined, due to the background level greater than or equal to 4x spike level.
- 0874_SW125_230421 in batch ET2302222 and 0874_SD111_230503 in batch ET2302407 for PFHxS and PFOS where the MS recovery was not determined, due to the background level greater than or equal to 4x spike level.
- 0874_MW112_230504 in batch ET2302407 for Perfluoroalkyl Sulfonic Acids PFBS, PFPeS, PFHxS, PFHpS, and PFOS, and Perfluoroalkyl Carboxylic Acids PFPeA and PFHxA where the MS recovery was not determined, due to the background level greater than or equal to 4x spike level.

The samples with matrix spike recovery not determined were identified as having elevated concentrations of PFAS therefore accounting for the background level being higher than the spike.

Surrogate spike recovery

No surrogate recovery outliers were reported.

QA/QC Data Evaluation

Comparison of Field Observations and Laboratory Results

No anomalous results between field observations and analysis results were noted.

Data transcription

A random 10% check of the laboratory results identified no anomalies within the electronic data, the laboratory reports, and tables generated by AECOM.

Limits of reporting

Limits of Reporting (LORs) were sufficiently low to enable assessment against adopted screening levels.

LOR values were adjusted due to sample matrix interference or high analyte concentrations for the following samples:

- EB2311697: 0874_SW132_230418, 0874_SW132_230419, 0874_SW125_230419, 0874_SW117_230419
- ET2302220: 0874_SW016_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW117_230420, 0874_SW117_230422, 0874_SW118_230422
- ET2302221: 0874_SW119_230422, 0874_SD019_230421, 0874_SD001_230420, 0874_SD126_230420, 0874_SD013_230420, 0874_SW001_230420, 0874_SW019_230421
- ET2302222: 0874_SD121_230421, 0874_QC111_230421, 0874_SD132_230421, 0874_SD123_230421, 0874_SD125_230421, 0874_SD016_230421, 0874_SD010_230421, 0874_SD102_230421.
- ET2302250: 0874_MW217_230421.
- ET2302252: 0874_MW467_230425, 0874_QC115_230425, 0874_MW213_230425, 0874_MW005_230426, 0874_MW138_230426, 0874_MW109_230426, 0874_MW055_230426, 0874_MW110_230426, 0874_MW139_230426, 0874_MW054_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426.
- ET2302407: 0874_SD110_230503, 0874_SD111_230503, 0874_SD107_230503.

Field duplicate RPDs

Field duplicate RPDs (as shown in **Tables C2, C3 and C4**) were reported within control limits except between:

- **0874_SD014_230421** and 0874_QC108_230421 for PFOS (110%).
- **0874_SD117_230421** and 0874_QC111_230421 for PFDoDA (84%).
- **0874_MW005_230426** and 0874_QC118_230426 for PFBA (45%), PFHpA (33%), PFHpS (39%)

(The sample with the higher concentration is in bold). Duplicate concentrations were within the same order of magnitude with some varying by one order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results.

Field triplicate RPDs

Field triplicate RPDs (as shown in **Tables C2, C3 and C4**) were reported within control limits for all sample sets with the exception of the following:

- **0874_SW206_230411** and 0874_QC250_230411 for PFHxS (31%).
- **0874_SW131_230418** and 0874_QC203_230418 for PFHxA (33%), PFHxS (33%), PFPeS (62%).
- **0874_SW123_230419** and 0874_QC204_230419 for PFBS (59%), PFHpS (54%), PFHxA (32%), PFHxS (34%), PFPeS (42%), PFOA (80%).
- **0874_SW115_230419** and 0874_QC205_230419 for PFBS (54%), PFHxS (31%), PFPeS (67%).
- **0874_SW123_230420** and 0874_QC206_230420 for PFBS (57%), PFPeS (47%).
- **0874_SW118_230420** and 0874_QC207_230420 PFBS (43%), PFPeS (76%), PFOA (31%).
- **0874_SW117_230421** and 0874_QC210_230421 for PFBS (38%), PFHpA (50%), PFHpS (39%), PFPeA (33%), PFPeDA (53%).
- 0874_SW114_230422 and **0874_QC212_230422** for PFHxS (89%), PFOS (81%).
- **0874_SW108_230422** and 0874_QC214_230422 for PFBS (46%), PFPeS (64%).
- **0874_MW005_230426** and 0874_QC218_230426 for PFBS (57%), PFHpS (110%), PFPeA (33%), PFPeS (95%), PFOS (32%), PFOA (86%).
- **0874_MW109_230426** and 0874_QC217_230426 for 6:2 FTS (44%), FOSA (181%), PFBS (50%), PFHpS (61%), PFPeS (70%), PFOA (79%).
- **0874_MW241_230427** and 0874_QC219_230427 for PFPeS (57%).
- **0874_MW009_230504** and 0874_QC222_230504 for FOSA (109%), PFHpS (92%), PFPeS (86%), PFOS (67%).
- **0874_MW223_230504** and 0874_QC223_230504 for PFBS (59%), PFHpS (51%), PFPeS (89%).

(The sample with the higher concentration is in bold)

Triplicate concentrations were generally within the same order of magnitude compared to the concentrations in the primary sample and this is not considered to impact interpretation of results. The filed triplicate RPDs are generally higher for samples analysed by ALS as opposed to Eurofins. The variability between the primary and triplicate results is inferred to be the result of slight differences in analytical methods and difference in extraction techniques employed by the two laboratories. This is demonstrated through the laboratory duplicate results generally being within acceptable limits.

Table C1 - Rinsate and Trip Blanks

Lab Report Number	ET2302220	ET2302252	ET2302252	ET2302407	ET2302407	ET2302407
Field ID	0874_QC305_230422	0874_QC306_230425	0874_QC307_230426	0874_QC308_230427	0874_QC309_230503	0874_QC310_230504
Date	22/04/2023	25/04/2023	26/04/2023	27/04/2023	3/05/2023	4/05/2023
Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chemical Name	Units	EQL	ET2302220	ET2302252	ET2302252	ET2302407	ET2302407	ET2302407
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	-	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01

Table C1 - Rinsate and Trip Blanks

Lab Report Number	EB2311298	ET2302407	ET2302407	986709
Field ID	0874_QC500_230414	0874_QC550_230504	0874_QC551_230505	0874_QC552_230505
Date	14/04/2023	4/05/2023	5/05/2023	5/05/2023
Sample Type	Trip B	Trip B	Trip B	Trip B

Chemical Name	Units	EQL				
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	<0.01
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	<0.02	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	<0.05	<0.05
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	<0.1	<0.05
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	<0.02	0.04
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	<0.01	0.09
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	<0.05	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	<0.02	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	<0.01	<0.01	<0.01	0.2
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	<0.01	0.02
Sum of PFHxS and PFOS	µg/L	0.01	<0.01	<0.01	<0.01	0.29
Sum of PFAS	µg/L	0.01	<0.01	<0.01	<0.01	0.35

Table C2 - Groundwater Field Duplicates and Triplicates

Lab Report Number	EB2311298	EB2311298		982496		ET2302252	ET2302252		986709	
Field ID	0874_MW269_230413	0874_QC152_230413	RPD	0874_QC252_230913	RPD	0874_MW213_230425	0874_QC115_230425	RPD	0874_QC215_230425	RPD
Date	13/04/2023	13/04/2023		13/04/2023		25/04/2023	25/04/2023		25/04/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.11	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.11	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.11	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.04	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.11	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	<0.01	NC	<0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.11	<0.10	NC	<0.01	NC
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.01	0.01	NC	0.01	NC	0.05	0.04	22	0.04	22
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	<0.01	NC	<0.01	NC
Sum of PFHxS and PFOS	µg/L	0.01	0.01	0.01	NC	0.01	NC	0.05	0.04	22	0.04	22
Sum of PFAS	µg/L	0.01	0.01	0.01	NC	<0.1	NC	0.05	0.04	22	<0.1	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2302252	ET2302252		986709		ET2302252	ET2302252		986709	
Field ID	0874_MW109_230426	0874_QC117_230426	RPD	0874_QC217_230426	RPD	0874_MW005_230426	0874_QC118_230426	RPD	0874_QC218_230426	RPD
Date	26/04/2023	26/04/2023		26/04/2023		26/04/2023	26/04/2023		26/04/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	12.8	11.8	8	8.2	44	<0.22	<1.00	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<2.08	<6.28	NC	<0.05	NC	<0.56	<2.50	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	14	-	-	-	-	11	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.83	<2.51	NC	<0.05	NC	<0.22	<1.00	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<2.08	<6.28	NC	<0.05	NC	<0.56	<2.50	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	1	<2.51	NC	<0.05	181	<0.22	<1.00	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<2.08	<6.28	NC	<0.05	NC	<0.56	<2.50	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.83	<2.51	NC	<0.05	NC	<0.22	<1.00	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<2.08	<6.28	NC	<0.05	NC	<0.56	<2.50	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	1.6	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	60.2	60.8	1	36	50	43.2	37.1	15	24	57
Perfluorobutanoic acid (PFBA)	µg/L	0.05	24.4	19.1	24	24	2	14.5	9.2	45	12	19
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.83	<2.51	NC	0.12	NC	<0.22	<1.00	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	22.2	19.8	11	20	10	20.5	14.7	33	18	13
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	56.2	51.8	8	30	61	89.2	60.2	39	26	110
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	172	180	5	180	5	186	165	12	150	21
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	480	537	11	490	2	835	920	10	820	2
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	38.3	47.5	21	33	15	30.6	32.5	6	22	33
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	66.7	67.6	1	32	70	75.4	58.6	25	27	95
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<2.08	<6.28	NC	<0.01	NC	<0.56	<2.50	NC	<0.01	NC
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.83	<2.51	NC	<0.01	NC	<0.22	<1.00	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	0.83	<2.51	NC	0.36	79	0.24	<1.00	NC	0.15	46
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	1,510	1,400	8	1,400	8	804	870	8	580	32
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	45.5	43	6	38	18	35.1	30.8	13	14	86
Sum of PFHxS and PFOS	µg/L	0.01	1,990	1,940	3	1,890	5	1,640	1,790	9	1,400	16
Sum of PFAS	µg/L	0.01	2,490	2,440	2	2,307.28	8	2,130	2,200	3	1,704.15	22

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2302407	ET2302407		986709		ET2302407	ET2302407		986709	
Field ID	0874_MW241_230427	0874_QC119_230427	RPD	0874_QC219_230427	RPD	0874_MW009_230504	0874_QC122_230504	RPD	0874_QC222_230504	RPD
Date	27/04/2023	27/04/2023		27/04/2023		4/05/2023	4/05/2023		4/05/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.10	<0.10	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.24	<0.25	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	0.06	-	-	-	-	0.52	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.10	<0.10	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.24	<0.25	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.10	<0.10	NC	<0.05	NC	0.27	0.3	11	0.08	109
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.24	<0.25	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.10	<0.10	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.24	<0.25	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.3	0.3	NC	0.2	40	1.76	1.81	3	1.3	30
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.5	<0.5	NC	0.2	NC	0.5	0.5	NC	0.44	13
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.10	<0.10	NC	0.01	NC	0.59	0.6	2	0.53	11
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.10	<0.10	NC	0.03	NC	2	2.14	7	0.74	92
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.38	0.39	3	0.36	5	4.6	3.82	19	3.8	19
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	1.98	1.92	3	1.9	4	18.2	14.4	23	14	26
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.10	<0.10	NC	0.07	NC	0.8	0.72	11	0.72	11
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.27	0.23	16	0.15	57	2.75	2.59	6	1.1	86
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.24	<0.25	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.10	<0.10	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.31	0.28	10	0.29	7	30.1	35.9	18	15	67
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.10	<0.10	NC	0.02	NC	1.9	1.81	5	1.9	NC
Sum of PFHxS and PFOS	µg/L	0.01	2.29	2.2	4	2.19	4	48.3	50.3	4	29	50
Sum of PFAS	µg/L	0.01	3.24	3.12	4	3.29	2	63.5	64.6	2	40.13	45

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C2 - Groundwater Field Duplicates and Triplicates

Lab Report Number	ET2302407	ET2302407		986709		ET2302407	ET2302407		986709	
Field ID	0874_MW223_230504	0874_QC123_230504	RPD	0874_QC223_230504	RPD	0874_MW229_230504	0874_QC124_230504	RPD	0874_QC224_230504	RPD
Date	4/05/2023	4/05/2023		4/05/2023		4/05/2023	4/05/2023		4/05/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL											
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	0.11	-	-	-	-	<0.01	-	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.06	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.75	0.72	4	0.41	59	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.2	0.3	40	0.27	30	<0.1	<0.1	NC	<0.05	NC	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.23	0.21	9	0.18	24	<0.02	<0.02	NC	<0.01	NC	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.22	0.2	10	0.13	51	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	1.42	1.42	NC	1.4	1	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	4.8	4.39	9	4.1	16	<0.01	<0.01	NC	<0.01	NC	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.33	0.38	14	0.32	3	<0.02	<0.02	NC	<0.01	NC	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.86	0.8	7	0.33	89	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.06	<0.06	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC	NC
Perfluorotridecanoic acid (PFTriDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	5.78	6.85	17	6.5	12	<0.01	<0.01	NC	0.01	NC	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.3	0.29	3	0.27	11	<0.01	<0.01	NC	<0.01	NC	NC
Sum of PFHxS and PFOS	µg/L	0.01	10.6	11.2	6	10.6	NC	<0.01	<0.01	NC	0.01	NC	NC
Sum of PFAS	µg/L	0.01	14.9	15.6	5	14.02	6	<0.01	<0.01	NC	<0.1	NC	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	EB2311297	EB2311297		982496	
Field ID	0874_SW206_230411	0874_QC150_230411	RPD	0874_QC250_230411	RPD
Date	11/04/2023	11/04/2023		11/04/2023	
Matrix Type	Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.05	0.06	18	0.02	86
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.1	0.09	11	0.07	35
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.26	0.26	NC	0.19	31
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.02	0.02	NC	0.02	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.04	0.04	NC	0.02	67
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.23	0.27	16	0.23	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.02	0.02	NC	0.02	NC
Sum of PFHxS and PFOS	µg/L	0.01	0.49	0.53	8	0.42	15
Sum of PFAS	µg/L	0.01	0.72	0.76	5	0.58	22

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	EB2311697	EB2311697		982496		EB2311697	EB2311697		982496	
Field ID	0874_SW017_230417	0874_QC101_230417	RPD	0874_QC201_230417	RPD	0874_SW127_230418	0874_QC102_230418	RPD	0874_QC202_230418	RPD
Date	17/04/2023	17/04/2023		17/04/2023		18/04/2023	18/04/2023		18/04/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	NC	<0.01	NC	-	-	-	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	NC	<0.01	NC	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	<0.01	0.01	NC	<0.01	NC	0.01	<0.01	NC	0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.01	0.02	67	0.01	NC	<0.01	<0.01	NC	<0.01	NC
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	<0.01	<0.01	NC	<0.01	NC
Sum of PFHxS and PFOS	µg/L	0.01	0.01	0.03	100	0.01	NC	0.01	<0.01	NC	0.01	NC
Sum of PFAS	µg/L	0.01	0.01	0.03	100	<0.1	NC	0.01	<0.01	NC	<0.1	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	EB2311697	EB2311697		EB2311697	EB2311697		982496	
Field ID	0874_SW010_230417	0874_QC100_230417	RPD	0874_SW131_230418	0874_QC103_230418	RPD	0874_QC203_230418	RPD
Date	17/04/2023	17/04/2023		18/04/2023	18/04/2023		18/04/2023	
Matrix Type	Water	Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	NC	-	-	-	0.05	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	NC	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.1	0.09	11	0.2	0.2	NC	0.13	42
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.1	<0.1	NC	0.06	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.07	0.06	15	0.05	0.05	NC	0.03	50
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.02	0.02	NC	0.07	0.08	13	0.06	15
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.13	0.13	NC	0.49	0.51	4	0.35	33
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.31	0.33	6	1.4	1.42	1	1	33
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.16	0.14	13	0.1	0.1	NC	0.07	35
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.05	0.06	18	0.21	0.21	NC	0.11	62
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	0.02	<0.02	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.59	0.67	13	1.64	1.75	6	1.7	4
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.08	0.08	NC	0.08	0.08	NC	0.07	13
Sum of PFHxS and PFOS	µg/L	0.01	0.9	1	11	3.04	3.17	4	2.7	12
Sum of PFAS	µg/L	0.01	1.53	1.58	3	4.24	4.4	4	3.63	16

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	EB2311697	EB2311697		982496		EB2311697	EB2311697		982496	
Field ID	0874_SW123_230419	0874_QC104_230419	RPD	0874_QC204_230419	RPD	0874_SW115_230419	0874_QC105_230419	RPD	0874_QC205_230419	RPD
Date	19/04/2023	19/04/2023		19/04/2023		19/04/2023	19/04/2023		19/04/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	0.49	-	-	-	-	0.06	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.57	0.61	7	0.31	59	0.26	0.26	NC	0.15	54
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.1	0.1	NC	0.14	33	<0.1	<0.1	NC	0.06	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.1	0.1	NC	0.05	67	0.06	0.07	15	0.04	40
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.34	0.31	9	0.59	54	0.06	0.06	NC	0.06	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	0.95	0.96	1	0.69	32	0.48	0.46	4	0.37	26
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	3.54	3.57	1	5	34	1.51	1.46	3	1.1	31
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.2	0.2	NC	0.14	35	0.09	0.09	NC	0.07	25
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	0.6	0.61	2	0.39	42	0.24	0.24	NC	0.12	67
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.06	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	5.54	4.76	15	4.4	23	1.22	1.25	2	1.3	6
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.21	0.21	NC	0.09	80	0.09	0.1	11	0.08	12
Sum of PFHxS and PFOS	µg/L	0.01	9.08	8.33	9	9.4	3	2.73	2.71	1	2.4	13
Sum of PFAS	µg/L	0.01	12.2	11.4	7	12.29	1	4.01	3.99	NC	3.41	16

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2302220	ET2302220		986709		ET2302220	ET2302220		986709	
Field ID	0874_SW123_230420	0874_QC106_230420	RPD	0874_QC206_230420	RPD	0874_SW118_230420	0874_QC107_230420	RPD	0874_QC207_230420	RPD
Date	20/04/2023	20/04/2023		20/04/2023		20/04/2023	20/04/2023		20/04/2023	
Matrix Type	Water	Water		Water		Water	Water		Water	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.12	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	0.48	-	-	-	-	0.13	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.05	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.12	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.05	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.12	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.05	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.12	<0.06	NC	<0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	1.36	1.36	NC	0.76	57	0.9	0.87	3	0.58	43
Perfluorobutanoic acid (PFBA)	µg/L	0.05	0.3	0.3	NC	0.28	7	0.3	0.3	NC	0.26	14
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	0.26	0.24	8	0.18	36	0.34	0.36	6	0.31	9
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	0.82	0.83	1	0.63	26	0.29	0.28	4	0.2	37
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	2.2	2.3	4	1.8	20	2.02	2.23	10	1.8	12
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	7.61	7.95	4	6.8	11	5.04	4.65	8	4.5	11
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	0.53	0.59	11	0.39	30	0.46	0.48	4	0.36	24
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	1.32	1.34	2	0.82	47	1.02	0.87	16	0.46	76
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.12	<0.06	NC	<0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.05	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	10.6	11.5	8	11	4	5.86	5.3	10	5.5	6
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	0.48	0.5	4	0.6	22	0.66	0.61	8	0.9	31
Sum of PFHxS and PFOS	µg/L	0.01	18.2	19.4	6	17.8	2	10.9	9.95	9	10	9
Sum of PFAS	µg/L	0.01	25.5	26.9	5	23.74	7	16.9	16	5	15	12

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number	ET2302222	ET2302222		986709		ET2302222	ET2302222		986709
Field ID	0874_SW014_230421	0874_QC109_230421	RPD	0874_QC209_230421	RPD	0874_SW117_230421	0874_QC110_230421	RPD	0874_QC210_230421
Date	21/04/2023	21/04/2023		21/04/2023		21/04/2023	21/04/2023		21/04/2023
Matrix Type	Water	Water		Water		Water	Water		Water
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate

Chemical Name	Units	EQL									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.09	<0.12	NC	<0.05
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	0.42
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.04	<0.05	NC	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.09	<0.12	NC	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.04	<0.05	NC	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.09	<0.12	NC	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	<0.02	<0.02	NC	<0.05	NC	<0.04	<0.05	NC	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	<0.05	<0.05	NC	<0.05	NC	<0.09	<0.12	NC	<0.05
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	<0.01	-	-	-	-	0.02
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	0.03	<0.02	40	<0.01	100	2.8	2.85	2	1.9
Perfluorobutanoic acid (PFBA)	µg/L	0.05	<0.1	<0.1	NC	<0.05	NC	1.1	0.8	32	0.82
Perfluorodecanoic acid (PFDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.05	NC	<0.01
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.05	NC	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.05	NC	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	1.26	1.18	7	0.76
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	1.16	1.13	3	0.78
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	6.92	7.09	2	6.1
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	0.01	0.02	67	0.02	67	15.7	16.4	4	13
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	1.54	1.51	2	1.1
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	2.93	3.13	7	1.7
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	<0.05	<0.05	NC	<0.01	NC	<0.09	<0.12	NC	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.05	NC	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	<0.04	<0.05	NC	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	<0.02	<0.02	NC	<0.01	NC	0.04	<0.05	NC	0.04
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	0.03	0.02	40	0.03	NC	23.2	24.1	4	26
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	<0.01	<0.01	NC	<0.01	NC	2.49	2.4	4	2.6
Sum of PFHxS and PFOS	µg/L	0.01	0.04	0.04	NC	0.05	22	38.9	40.5	4	39
Sum of PFAS	µg/L	0.01	0.07	0.04	55	<0.1	NC	59.1	60.6	3	55.24

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number		ET2302221	ET2302221		986709		ET2302220	ET2302220		986709
Field ID	RPD	0874_SW114_230422	0874_QC112_230422	RPD	0874_QC212_230422	RPD	0874_SW108_230422	0874_QC114_230422	RPD	0874_QC214_230422
Date		22/04/2023	22/04/2023		22/04/2023		22/04/2023	22/04/2023		22/04/2023
Matrix Type		Water	Water		Water		Water	Water		Water
Sample Type		Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	0.01	-	-	-	-	0.1
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC	<0.02	<0.02	NC	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC	<0.05	<0.05	NC	<0.05
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	-	<0.01	-	-	-	-	<0.01
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	38	0.08	0.1	22	0.05	46	0.43	0.44	2	0.27
Perfluorobutanoic acid (PFBA)	µg/L	0.05	29	<0.1	<0.1	NC	0.06	NC	<0.1	<0.1	NC	0.1
Perfluorodecanoic acid (PFDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	50	0.02	0.02	NC	0.02	NC	0.05	0.05	NC	0.04
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	39	0.02	0.02	NC	0.03	40	0.08	0.07	13	0.06
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	13	0.17	0.18	6	0.16	6	0.56	0.57	2	0.59
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	19	0.46	0.47	2	1.2	89	2.07	1.92	8	2.4
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	33	0.02	0.02	NC	0.03	40	0.09	0.09	NC	0.11
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	53	0.07	0.08	13	0.04	55	0.37	0.33	11	0.19
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC	<0.05	<0.05	NC	<0.01
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluorononanoic acid (PFNA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC	<0.02	<0.02	NC	<0.01
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	11	0.33	0.36	9	0.78	81	1.1	1.1	NC	1.2
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	4	0.04	0.03	29	0.05	22	0.08	0.08	NC	0.06
Sum of PFHxS and PFOS	µg/L	0.01	NC	0.79	0.83	5	1.98	86	3.17	3.02	5	3.6
Sum of PFAS	µg/L	0.01	7	1.21	1.28	6	2.43	67	4.83	4.65	4	5.12

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Lab Report Number		ET2302407	ET2302407		986709	
Field ID	RPD	0874_SW201_230503	0874_QC120_230503	RPD	0874_QC220_230503	RPD
Date		3/05/2023	3/05/2023		3/05/2023	
Matrix Type		Water	Water		Water	
Sample Type		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL						
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluoropropanesulfonic acid (PFPrS)	µg/L	0.01	-	-	-	-	<0.01	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorooctane sulfonamide (FOSA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	µg/L	0.02	NC	<0.02	<0.02	NC	<0.05	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	µg/L	0.05	NC	<0.05	<0.05	NC	<0.05	NC
Perfluorononane sulfonate (PFNS)	µg/L	0.01	-	-	-	-	<0.01	-
Perfluorobutane sulfonic acid (PFBS)	µg/L	0.01	46	<0.02	<0.02	NC	<0.01	NC
Perfluorobutanoic acid (PFBA)	µg/L	0.05	NC	<0.1	<0.1	NC	<0.05	NC
Perfluorodecanoic acid (PFDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorodecane sulfonic acid (PFDS)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorododecanoic acid (PFDoDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptanoic acid (PFHpA)	µg/L	0.01	22	<0.02	<0.02	NC	<0.01	NC
Perfluoroheptane sulfonic acid (PFHpS)	µg/L	0.01	29	<0.02	<0.02	NC	<0.01	NC
Perfluorohexanoic acid (PFHxA)	µg/L	0.01	5	<0.02	<0.02	NC	<0.01	NC
Perfluorohexane sulfonic acid (PFHxS)	µg/L	0.01	15	<0.01	<0.01	NC	0.01	NC
Perfluoropentanoic acid (PFPeA)	µg/L	0.01	20	<0.02	<0.02	NC	<0.01	NC
Perfluoropentane sulfonic acid (PFPeS)	µg/L	0.01	64	<0.02	<0.02	NC	<0.01	NC
Perfluorotetradecanoic acid (PFTeDA)	µg/L	0.01	NC	<0.05	<0.05	NC	<0.01	NC
Perfluorotridecanoic acid (PFTrDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluoroundecanoic acid (PFUnDA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorononanoic acid (PFNA)	µg/L	0.01	NC	<0.02	<0.02	NC	<0.01	NC
Perfluorooctane sulfonic acid (PFOS)	µg/L	0.01	9	<0.01	<0.01	NC	0.03	100
Perfluorooctanoic Acid (PFOA)	µg/L	0.01	29	<0.01	<0.01	NC	<0.01	NC
Sum of PFHxS and PFOS	µg/L	0.01	13	<0.01	<0.01	NC	0.04	120
Sum of PFAS	µg/L	0.01	6	<0.01	<0.01	NC	<0.1	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL. Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table C4 - Sediment Field Duplicates and Triplicates

Lab Report Number	EB2311297	EB2311297		ET2302222	ET2302222		986709	
Field ID	0874_SD206_230411	0874_QC151_230411	RPD	0874_SD014_230421	0874_QC108_230421	RPD	0874_QC208_230421	RPD
Date	11/04/2023	11/04/2023		21/04/2023	21/04/2023		21/04/2023	
Matrix Type	Sediment	Sediment		Sediment	Sediment		Sediment	
Sample Type	Primary	Duplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	-	-	-	<0.005	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorononane sulfonate (PFNS)	mg/kg	0.005	-	-	-	-	-	-	<0.005	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	NC	<0.001	<0.001	NC	<0.005	NC
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	0.0004	<0.0002	67	<0.005	NC
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	0.0004	0.0003	29	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	0.0004	0.0003	29	0.0004	<0.0002	67	<0.005	NC
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorotridecanoic acid (PFTTrDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	0.0064	0.0059	8	0.0024	0.0007	110	<0.005	NC
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	0.0003	0.0003	NC	<0.0002	<0.0002	NC	<0.005	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Any methods in the row header relate to those used in the primary laboratory

Table C4 - Sediment Field Duplicates and Triplicates

Lab Report Number	ET2302222	ET2302222		986709		ET2302221	ET2302221		986709	
Field ID	0874_SD117_230421	0874_QC111_230421	RPD	0874_QC211_230421	RPD	0874_SD114_230422	0874_QC113_230422	RPD	0874_QC213_230422	RPD
Date	21/04/2023	21/04/2023		21/04/2023		22/04/2023	22/04/2023		22/04/2023	
Matrix Type	Sediment	Sediment		Sediment		Sediment	Sediment		Sediment	
Sample Type	Primary	Duplicate		Triplicate		Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL										
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.01	NC	<0.0005	<0.0005	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	<0.005	-	-	-	-	<0.005	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.01	NC	<0.0002	<0.0002	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.01	NC	<0.0002	<0.0002	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorononane sulfonate (PFNS)	mg/kg	0.005	-	-	-	<0.005	-	-	-	-	<0.005	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	0.0007	0.0005	33	<0.005	NC	0.0002	0.0002	NC	<0.005	NC
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	NC	<0.005	NC	<0.001	<0.001	NC	<0.005	NC
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	0.0004	0.0005	22	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	0.0022	<0.0028	NC	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	0.0022	0.0009	84	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	0.0007	0.0004	55	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	0.0007	0.0005	33	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	0.0016	0.0015	6	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	0.0048	0.004	18	0.0055	14	0.0006	0.0006	NC	<0.005	NC
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	0.0004	0.0002	67	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	0.0006	0.0005	18	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	0.0006	0.0005	18	<0.005	NC	<0.0005	<0.0005	NC	<0.005	NC
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	0.0005	0.0004	22	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	0.0006	0.0006	NC	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	0.0618	0.0686	10	0.046	29	0.0074	0.0072	3	0.0062	18
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	0.0011	0.001	10	<0.005	NC	<0.0002	<0.0002	NC	<0.005	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.

Any methods in the row header relate to those used in the primary laboratory

Table C4 - Sediment Field Duplicates and Triplicates

Lab Report Number	ET2302407	ET2302407		986709	
Field ID	0874_SD201_230503	0874_QC121_230503	RPD	0874_QC221_230503	RPD
Date	3/05/2023	3/05/2023		3/05/2023	
Matrix Type	Sediment	Sediment		Sediment	
Sample Type	Primary	Duplicate		Triplicate	

Chemical Name	Units	EQL					
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.01	NC
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
Perfluoropropanesulfonic acid (PFPrS)	mg/kg	0.005	-	-	-	<0.005	-
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.01	NC
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
Perfluorooctane sulfonamide (FOSA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamide (MeFOSA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.01	NC
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
Perfluorononane sulfonate (PFNS)	mg/kg	0.005	-	-	-	<0.005	-
Perfluorobutane sulfonic acid (PFBS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorobutanoic acid (PFBA)	mg/kg	0.001	<0.001	<0.001	NC	<0.005	NC
Perfluorodecanoic acid (PFDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorodecane sulfonic acid (PFDS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorododecanoic acid (PFDoDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroheptanoic acid (PFHpA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroheptane sulfonic acid (PFHpS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexanoic acid (PFHxA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorohexane sulfonic acid (PFHxS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluoropentanoic acid (PFPeA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluoropentane sulfonic acid (PFPeS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorotetradecanoic acid (PFTeDA)	mg/kg	0.0005	<0.0005	<0.0005	NC	<0.005	NC
Perfluorotridecanoic acid (PFTrDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluoroundecanoic acid (PFUnDA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorononanoic acid (PFNA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorooctane sulfonic acid (PFOS)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC
Perfluorooctanoic Acid (PFOA)	mg/kg	0.0002	<0.0002	<0.0002	NC	<0.005	NC

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
Where concentration is less than EQL or where the primary concentration is equal to the duplicate/triplicate concentration, this has been denoted "NC" for Not Calculated.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 200 (1 - 10 x EQL); 50 (10 - 20 x EQL); 30 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories.
Any methods in the row header relate to those used in the primary laboratory

Appendix D

Chain of Custody Records

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

2/5/23
 @ 8:16

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
001	0874_MW015_230427		27/04/2023 01:42 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
002	0874_MW016_230427		27/04/2023 02:00 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
003	0874_MW021_230427		27/04/2023 02:11 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
004	0874_MW242_230427		27/04/2023 02:43 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
005	0874_MW241_230427		27/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
006	0874_QC119_230427		27/04/2023 03:01 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
007	0874_MW004_230427		27/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
008	0874_MW122_230427		27/04/2023 03:19 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
009	0874_MW002_230427		27/04/2023 03:35 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

Environmental Division
 Townsville
 Work Order Reference
ET2302407



Telephone : + 61 7 4773 3000

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
@ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
010	0874_QC308_230427		27/04/2023 03:42 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
011	0874_MW118_230428		28/04/2023 09:44 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
012	0874_MW140_230428		28/04/2023 10:09 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
013	0874_MW250_230428		28/04/2023 10:42 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
014	0874_MW251_230428		28/04/2023 10:56 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
015	0874_MW057_230428		28/04/2023 12:34 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
016	0874_MW142_230428		28/04/2023 11:15 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
017	0874_MW135_230428		28/04/2023 12:13 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
018	0874_MW114_230428		28/04/2023 12:53 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE: 9/5/23 @ 8:06

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW043_230428		28/04/2023 01:02 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
020	0874_SW110_230503		03/05/2023 10:57 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
021	0874_SD110_230503		03/05/2023 10:58 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
022	0874_MW201_230503		03/05/2023 11:35 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
023	0874_MW202_230503		03/05/2023 11:48 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
024	0874_MW203_230503		03/05/2023 12:11 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
025	0874_SW111_230503		03/05/2023 12:40 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
026	0874_SD111_230503		03/05/2023 12:41 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
027	0874_SW107_230503		03/05/2023 01:09 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51574 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
@ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
028	0874_SD107_230503		03/05/2023 01:10 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
029	0874_SW113_230503		03/05/2023 01:40 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
030	0874_SD113_230503		03/05/2023 01:41 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
031	0874_SW021_230503		03/05/2023 02:18 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
032	0874_SD021_230503		03/05/2023 02:19 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
033	0874_SW120_230503		03/05/2023 02:34 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
034	0874_SD120_230503		03/05/2023 02:35 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
035	0874_SW201_230503		03/05/2023 03:42 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
036	0874_QC120_230503		03/05/2023 03:44 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

9/5/23

Q 5:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
037	0874_SD201_230503		03/05/2023 03:45 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
038	0874_QC121_230503		03/05/2023 03:46 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
039	0874_QC309_230503		03/05/2023 05:21 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
040	0874_MW136_230504		04/05/2023 07:51 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
041	0874_MW265_230504		04/05/2023 09:49 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
042	0874_MW243_230504		04/05/2023 09:40 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
043	0874_MW244_230504		04/05/2023 09:28 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
044	0874_MW056_230504		04/05/2023 10:12 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
045	0874_MW234_230504		04/05/2023 02:13 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
 @ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFA SOPM_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

CONTACT PH:

PRIMARY SAMPLER:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
046	0874_MW255_230504		04/05/2023 02:25 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
047	0874_MW235_230504		04/05/2023 02:43 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
048	0874_MW112_230504		04/05/2023 10:32 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
049	0874_MW245_230504		04/05/2023 10:25 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
050	0874_MW248_230504		04/05/2023 10:54 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
051	0874_MW061_230504		04/05/2023 12:01 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
052	0874_MW232_230504		04/05/2023 01:35 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
053	0874_MW224_230504		04/05/2023 01:42 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
054	0874_MW223_230504		04/05/2023 01:16 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RE [REDACTED]
 DATE TIME: 21/5/23 @ 8:16

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

CONTACT PH: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
055	0874_MW009_230504		04/05/2023 11:12 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
056	0874_MW247_230504		04/05/2023 11:02 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
057	0874_MW125_230504		04/05/2023 11:33 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
058	0874_MW038_230504		04/05/2023 11:45 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
059	0874_MW063_230504		04/05/2023 12:06 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
060	0874_MW033_230504		04/05/2023 12:36 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
061	0874_MW034_230504		04/05/2023 12:26 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
062	0874_MW026_230504		04/05/2023 01:08 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
063	0874_MW120_230504		04/05/2023 12:58 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		



CHAIN OF CUSTODY

COC#: 51574

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

REC

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

② 840
9/5/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A


Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
064	0874_QC123_230504		04/05/2023 01:20 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
065	0874_MW300_230504		04/05/2023 02:58 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
066	0874_MW229_230504		04/05/2023 03:23 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
067	0874_MW227_230504		04/05/2023 03:36 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
068	0874_MW226_230504		04/05/2023 03:42 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
069	0874_MW222_230504		04/05/2023 03:55 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
070	0874_MW470_230504		04/05/2023 04:22 PM	WATER	ALS: 2 Non ALS: 0	No		Partial 1/4		
071	0874_QC124_230504		04/05/2023 03:22 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
072	0874_QC310_230504		04/05/2023 04:47 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

 CHAIN OF CUSTODY COC#: 51574 ALS Laboratory: ET Townsville		RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME:	RELINQUISHED BY: DATE TIME:	RECEIVED BY: [REDACTED] DATE TIME: 9/5/23 @ 5:40
CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD PROJECT: QLD_0874_PFASOMP_23 (v2) SITE: 0874_RAAF Wet season ORDER NO: 60612487_2.1 PROJECT MANAGER: [REDACTED] PRIMARY SAMPLER: [REDACTED] EMAIL REPORTS TO: [REDACTED] EMAIL INVOICES TO: [REDACTED]		TURNAROUND REQUIREMENTS : 5 Days Biohazard info:		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:	
		CONTACT PH: [REDACTED] QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000 1			

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
073	0847_QC550_230504		05/05/2023 10:21 AM	WATER	ALS: 2 Non ALS: 0	No		Partial 1/4		
074	0874_QC122_230504		03/05/2023 11:10 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
075	0874_QC551_230505		05/05/2023 10:00 AM	WATER	ALS: 2 Non ALS: 0	No		Partial 1/4		



CHAIN OF CUSTODY

COC#: 51574 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23 @ 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000 1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW015_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW016_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW021_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW242_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW241_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_QC119_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW004_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW122_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW002_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_QC308_230427	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW118_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW140_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW250_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW251_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW057_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED [REDACTED]
 DATE TIME: 9/5/23
 (A) 8:40

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

016	0874_MW142_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
017	0874_MW135_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW114_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW043_230428	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
020	0874_SW110_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SD110_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_MW201_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
023	0874_MW202_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
024	0874_MW203_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
025	0874_SW111_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
026	0874_SD111_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
027	0874_SW107_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SD107_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
029	0874_SW113_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SD113_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
031	0874_SW021_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY: [REDACTED]

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23 @ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032	0874_SD021_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
033	0874_SW120_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
034	0874_SD120_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
035	0874_SW201_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
036	0874_QC120_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
037	0874_SD201_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
038	0874_QC121_230503	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
039	0874_QC309_230503	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
040	0874_MW136_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
041	0874_MW265_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
042	0874_MW243_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
043	0874_MW244_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
044	0874_MW056_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
045	0874_MW234_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
046	0874_MW255_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
047	0874_MW235_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED [REDACTED]
 DATE TIME: 9/5/2
 8:16

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

048	0874_MW112_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
049	0874_MW245_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
050	0874_MW248_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
051	0874_MW061_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
052	0874_MW232_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
053	0874_MW224_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
054	0874_MW223_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
055	0874_MW009_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
056	0874_MW247_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
057	0874_MW125_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
058	0874_MW038_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
059	0874_MW063_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
060	0874_MW033_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
061	0874_MW034_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
062	0874_MW026_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
063	0874_MW120_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

CQC#: 51574 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
E.S.L.

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

064	0874_QC123_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
065	0874_MW300_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
066	0874_MW229_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
067	0874_MW227_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
068	0874_MW226_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
069	0874_MW222_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
070	0874_MW470_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
071	0874_QC124_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
072	0874_QC310_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
073	0847_QC550_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
074	0874_QC122_230504	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
075	0874_QC551_230505	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
 @ 8:06

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE	SAMP		VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW015_230427	HDPE (no PTFE)	20 mL	00350822061524	Grey	No	
001	0874_MW015_230427	HDPE (no PTFE)	20 mL	00350822061369	Grey	No	
001	0874_MW015_230427	HDPE (no PTFE)	20 mL	00350822061311	Grey	No	
001	0874_MW015_230427	HDPE (no PTFE)	20 mL	00350822061082	Grey	No	
002	0874_MW016_230427	HDPE (no PTFE)	20 mL	00350822061236	Grey	No	
002	0874_MW016_230427	HDPE (no PTFE)	20 mL	00350822061261	Grey	No	
002	0874_MW016_230427	HDPE (no PTFE)	20 mL	00350822061563	Grey	No	
002	0874_MW016_230427	HDPE (no PTFE)	20 mL	00350822061245	Grey	No	
003	0874_MW021_230427	HDPE (no PTFE)	20 mL	00350822061068	Grey	No	
003	0874_MW021_230427	HDPE (no PTFE)	20 mL	00350822061466	Grey	No	
003	0874_MW021_230427	HDPE (no PTFE)	20 mL	00350822061266	Grey	No	
003	0874_MW021_230427	HDPE (no PTFE)	20 mL	00350822061128	Grey	No	
004	0874_MW242_230427	HDPE (no PTFE)	20 mL	00350822061265	Grey	No	
004	0874_MW242_230427	HDPE (no PTFE)	20 mL	00350822061578	Grey	No	
004	0874_MW242_230427	HDPE (no PTFE)	20 mL	00350822061394	Grey	No	
004	0874_MW242_230427	HDPE (no PTFE)	20 mL	00350822061207	Grey	No	
005	0874_MW241_230427	HDPE (no PTFE)	20 mL	00350822061117	Grey	No	
005	0874_MW241_230427	HDPE (no PTFE)	20 mL	00350822061328	Grey	No	
005	0874_MW241_230427	HDPE (no PTFE)	20 mL	00350822061220	Grey	No	
005	0874_MW241_230427	HDPE (no PTFE)	20 mL	00350822061090	Grey	No	
006	0874_QC119_230427	HDPE (no PTFE)	20 mL	00350822061421	Grey	No	
006	0874_QC119_230427	HDPE (no PTFE)	20 mL	00350822061354	Grey	No	
006	0874_QC119_230427	HDPE (no PTFE)	20 mL	00350822061373	Grey	No	
006	0874_QC119_230427	HDPE (no PTFE)	20 mL	00350822061584	Grey	No	
007	0874_MW004_230427	HDPE (no PTFE)	20 mL	00350822061121	Grey	No	
007	0874_MW004_230427	HDPE (no PTFE)	20 mL	00350822061143	Grey	No	



CHAIN OF CUSTODY

CQC#: 51574 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
@ 8:16

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL INVOICES TO:

007	0874_MW004_230427	HDPE (no PTFE)	20 mL	00350822061206	Grey	No	
007	0874_MW004_230427	HDPE (no PTFE)	20 mL	00350822061290	Grey	No	
008	0874_MW122_230427	HDPE (no PTFE)	20 mL	00350822061096	Grey	No	
008	0874_MW122_230427	HDPE (no PTFE)	20 mL	00350822061504	Grey	No	
008	0874_MW122_230427	HDPE (no PTFE)	20 mL	00350822061324	Grey	No	
008	0874_MW122_230427	HDPE (no PTFE)	20 mL	00350822061184	Grey	No	
009	0874_MW002_230427	HDPE (no PTFE)	20 mL	00350822061527	Grey	No	
009	0874_MW002_230427	HDPE (no PTFE)	20 mL	00350822061573	Grey	No	
009	0874_MW002_230427	HDPE (no PTFE)	20 mL	00350822061153	Grey	No	
009	0874_MW002_230427	HDPE (no PTFE)	20 mL	00350822061483	Grey	No	
010	0874_QC308_230427	HDPE (no PTFE)	20 mL	00350522052871	Grey	No	
010	0874_QC308_230427	HDPE (no PTFE)	20 mL	00350522053010	Grey	No	
010	0874_QC308_230427	HDPE (no PTFE)	20 mL	00350822061150	Grey	No	
010	0874_QC308_230427	HDPE (no PTFE)	20 mL	00350822061129	Grey	No	
011	0874_MW118_230428	HDPE (no PTFE)	20 mL	00350822061360	Grey	No	
011	0874_MW118_230428	HDPE (no PTFE)	20 mL	00350822061203	Grey	No	
011	0874_MW118_230428	HDPE (no PTFE)	20 mL	00350822061119	Grey	No	
011	0874_MW118_230428	HDPE (no PTFE)	20 mL	00350822061427	Grey	No	
012	0874_MW140_230428	HDPE (no PTFE)	20 mL	00350822061485	Grey	No	
012	0874_MW140_230428	HDPE (no PTFE)	20 mL	00350822061378	Grey	No	
012	0874_MW140_230428	HDPE (no PTFE)	20 mL	00350822061295	Grey	No	
012	0874_MW140_230428	HDPE (no PTFE)	20 mL	00350822061383	Grey	No	
013	0874_MW250_230428	HDPE (no PTFE)	20 mL	00350822061155	Grey	No	
013	0874_MW250_230428	HDPE (no PTFE)	20 mL	00350822061418	Grey	No	
013	0874_MW250_230428	HDPE (no PTFE)	20 mL	00350822061398	Grey	No	
013	0874_MW250_230428	HDPE (no PTFE)	20 mL	00350822061377	Grey	No	
014	0874_MW251_230428	HDPE (no PTFE)	20 mL	00350822061235	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 9/5/23
 @ S-L

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

014	0874_MW251_230428	HDPE (no PTFE)	20 mL	00350822061224	Grey	No	
014	0874_MW251_230428	HDPE (no PTFE)	20 mL	00350822061302	Grey	No	
014	0874_MW251_230428	HDPE (no PTFE)	20 mL	00350822061442	Grey	No	
015	0874_MW057_230428	HDPE (no PTFE)	20 mL	00350822061335	Grey	No	
015	0874_MW057_230428	HDPE (no PTFE)	20 mL	00350822061405	Grey	No	
015	0874_MW057_230428	HDPE (no PTFE)	20 mL	00350822061564	Grey	No	
015	0874_MW057_230428	HDPE (no PTFE)	20 mL	00350822061308	Grey	No	
016	0874_MW142_230428	HDPE (no PTFE)	20 mL	00350822061103	Grey	No	
016	0874_MW142_230428	HDPE (no PTFE)	20 mL	00350822061344	Grey	No	
016	0874_MW142_230428	HDPE (no PTFE)	20 mL	00350822061042	Grey	No	
016	0874_MW142_230428	HDPE (no PTFE)	20 mL	00350822061174	Grey	No	
017	0874_MW135_230428	HDPE (no PTFE)	20 mL	00350822061229	Grey	No	
017	0874_MW135_230428	HDPE (no PTFE)	20 mL	00350822061138	Grey	No	
017	0874_MW135_230428	HDPE (no PTFE)	20 mL	00350822061066	Grey	No	
017	0874_MW135_230428	HDPE (no PTFE)	20 mL	00350822061433	Grey	No	
018	0874_MW114_230428	HDPE (no PTFE)	20 mL	00350822061602	Grey	No	
018	0874_MW114_230428	HDPE (no PTFE)	20 mL	00350822061317	Grey	No	
018	0874_MW114_230428	HDPE (no PTFE)	20 mL	00350822061535	Grey	No	
018	0874_MW114_230428	HDPE (no PTFE)	20 mL	00350822061088	Grey	No	
019	0874_MW043_230428	HDPE (no PTFE)	20 mL	00350822061474	Grey	No	
019	0874_MW043_230428	HDPE (no PTFE)	20 mL	00350822061595	Grey	No	
019	0874_MW043_230428	HDPE (no PTFE)	20 mL	00350822061095	Grey	No	
019	0874_MW043_230428	HDPE (no PTFE)	20 mL	00350822061210	Grey	No	
020	0874_SW110_230503	HDPE (no PTFE)	20 mL	00350822061352	Grey	No	
020	0874_SW110_230503	HDPE (no PTFE)	20 mL	00350822004804	Grey	No	
020	0874_SW110_230503	HDPE (no PTFE)	20 mL	00350822004828	Grey	No	
020	0874_SW110_230503	HDPE (no PTFE)	20 mL	00350822061620	Grey	No	

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

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 DATE TIME:

RECEIVED BY:
 DATE TIME: 9/5/23
 @ 8.10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

ID	Sample ID	Material	Volume	Barcode	Color	Seal	Temp	Comments
021	0874_SD110_230503	HDPE Soil Jar	200 mL	00620322093411	Grey	No		
022	0874_MW201_230503	HDPE (no PTFE)	20 mL	00350822004901	Grey	No		
022	0874_MW201_230503	HDPE (no PTFE)	20 mL	00350822004861	Grey	No		
022	0874_MW201_230503	HDPE (no PTFE)	20 mL	00350822004844	Grey	No		
022	0874_MW201_230503	HDPE (no PTFE)	20 mL	00350822028771	Grey	No		
023	0874_MW202_230503	HDPE (no PTFE)	20 mL	00350822028798	Grey	No		
023	0874_MW202_230503	HDPE (no PTFE)	20 mL	00350822061156	Grey	No		
023	0874_MW202_230503	HDPE (no PTFE)	20 mL	00350822061471	Grey	No		
023	0874_MW202_230503	HDPE (no PTFE)	20 mL	00350822005049	Grey	No		
024	0874_MW203_230503	HDPE (no PTFE)	20 mL	00350822028762	Grey	No		
024	0874_MW203_230503	HDPE (no PTFE)	20 mL	00350822004817	Grey	No		
024	0874_MW203_230503	HDPE (no PTFE)	20 mL	00350822028791	Grey	No		
024	0874_MW203_230503	HDPE (no PTFE)	20 mL	00350822004914	Grey	No		
025	0874_SW111_230503	HDPE (no PTFE)	20 mL	00350822061139	Grey	No		
025	0874_SW111_230503	HDPE (no PTFE)	20 mL	00350822028780	Grey	No		
025	0874_SW111_230503	HDPE (no PTFE)	20 mL	00350822061060	Grey	No		
025	0874_SW111_230503	HDPE (no PTFE)	20 mL	00350822028789	Grey	No		
026	0874_SD111_230503	HDPE Soil Jar	200 mL	00621122070331	Grey	No		
027	0874_SW107_230503	HDPE (no PTFE)	20 mL	00350822004920	Grey	No		
027	0874_SW107_230503	HDPE (no PTFE)	20 mL	00350822061500	Grey	No		
027	0874_SW107_230503	HDPE (no PTFE)	20 mL	00350822004962	Grey	No		
027	0874_SW107_230503	HDPE (no PTFE)	20 mL	00350822061299	Grey	No		
028	0874_SD107_230503	HDPE Soil Jar	200 mL	00621122070366	Grey	No		
029	0874_SW113_230503	HDPE (no PTFE)	20 mL	00350822081291	Grey	No		
029	0874_SW113_230503	HDPE (no PTFE)	20 mL	00350822061472	Grey	No		
029	0874_SW113_230503	HDPE (no PTFE)	20 mL	00350822061079	Grey	No		
029	0874_SW113_230503	HDPE (no PTFE)	20 mL	00350822061239	Grey	No		

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME: 9/5/23 @ 8:40

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFASOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

Item No	Sample ID	Material	Volume	Barcode	Color	Seal	Temp
030	0874_SD113_230503	HDPE Soil Jar	200 mL	00620322093405	Grey	No	
031	0874_SW021_230503	HDPE (no PTFE)	20 mL	00350822004833	Grey	No	
031	0874_SW021_230503	HDPE (no PTFE)	20 mL	00350822004930	Grey	No	
031	0874_SW021_230503	HDPE (no PTFE)	20 mL	00350822004885	Grey	No	
031	0874_SW021_230503	HDPE (no PTFE)	20 mL	00350822028795	Grey	No	
032	0874_SD021_230503	HDPE Soil Jar	200 mL	00621122070384	Grey	No	
033	0874_SW120_230503	HDPE (no PTFE)	20 mL	00350822004970	Grey	No	
033	0874_SW120_230503	HDPE (no PTFE)	20 mL	00350822004815	Grey	No	
033	0874_SW120_230503	HDPE (no PTFE)	20 mL	00350822061552	Grey	No	
033	0874_SW120_230503	HDPE (no PTFE)	20 mL	00350822061200	Grey	No	
034	0874_SD120_230503	HDPE Soil Jar	200 mL	00621122070289	Grey	No	
035	0874_SW201_230503	HDPE (no PTFE)	20 mL	00350822028778	Grey	No	
035	0874_SW201_230503	HDPE (no PTFE)	20 mL	00350822004846	Grey	No	
035	0874_SW201_230503	HDPE (no PTFE)	20 mL	00350822028776	Grey	No	
035	0874_SW201_230503	HDPE (no PTFE)	20 mL	00350822004993	Grey	No	
036	0874_QC120_230503	HDPE (no PTFE)	20 mL	00350822061247	Grey	No	
036	0874_QC120_230503	HDPE (no PTFE)	20 mL	00350822061217	Grey	No	
036	0874_QC120_230503	HDPE (no PTFE)	20 mL	00350822028784	Grey	No	
036	0874_QC120_230503	HDPE (no PTFE)	20 mL	00350822004955	Grey	No	
037	0874_SD201_230503	HDPE Soil Jar	200 mL	00620322093408	Grey	No	
038	0874_QC121_230503	HDPE Soil Jar	200 mL	00620322093389	Grey	No	
039	0874_QC309_230503	HDPE (no PTFE)	20 mL	00350822028781	Grey	No	
039	0874_QC309_230503	HDPE (no PTFE)	20 mL	00350822004990	Grey	No	
039	0874_QC309_230503	HDPE (no PTFE)	20 mL	00350822028768	Grey	No	
039	0874_QC309_230503	HDPE (no PTFE)	20 mL	00350822004941	Grey	No	
040	0874_MW136_230504	HDPE (no PTFE)	20 mL	00350822061587	Grey	No	
040	0874_MW136_230504	HDPE (no PTFE)	20 mL	00350822028765	Grey	No	

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

RECEIVED BY: [Redacted]
 DATE TIME: 9/5/23 @ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: 0874_RAAF Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER: [Redacted]

PRIMARY SAMPLER: [Redacted]

EMAIL REPORTS TO: [Redacted]

EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [Redacted]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

040	0874_MW136_230504	HDPE (no PTFE)	20 mL	00350822061603	Grey	No
040	0874_MW136_230504	HDPE (no PTFE)	20 mL	00350822004892	Grey	No
041	0874_MW265_230504	HDPE (no PTFE)	20 mL	00350822004960	Grey	No
041	0874_MW265_230504	HDPE (no PTFE)	20 mL	00350822028800	Grey	No
041	0874_MW265_230504	HDPE (no PTFE)	20 mL	00350822061600	Grey	No
041	0874_MW265_230504	HDPE (no PTFE)	20 mL	00350822061012	Grey	No
042	0874_MW243_230504	HDPE (no PTFE)	20 mL	00350822004855	Grey	No
042	0874_MW243_230504	HDPE (no PTFE)	20 mL	00350822004837	Grey	No
042	0874_MW243_230504	HDPE (no PTFE)	20 mL	00350822061113	Grey	No
042	0874_MW243_230504	HDPE (no PTFE)	20 mL	00350822061605	Grey	No
043	0874_MW244_230504	HDPE (no PTFE)	20 mL	00350822061351	Grey	No
043	0874_MW244_230504	HDPE (no PTFE)	20 mL	00350822061104	Grey	No
043	0874_MW244_230504	HDPE (no PTFE)	20 mL	00350822061152	Grey	No
043	0874_MW244_230504	HDPE (no PTFE)	20 mL	00350822061015	Grey	No
044	0874_MW056_230504	HDPE (no PTFE)	20 mL	00350822061376	Grey	No
044	0874_MW056_230504	HDPE (no PTFE)	20 mL	00350822061329	Grey	No
044	0874_MW056_230504	HDPE (no PTFE)	20 mL	00350822061127	Grey	No
044	0874_MW056_230504	HDPE (no PTFE)	20 mL	00350822061325	Grey	No
045	0874_MW234_230504	HDPE (no PTFE)	20 mL	00350822004999	Grey	No
045	0874_MW234_230504	HDPE (no PTFE)	20 mL	00350822061368	Grey	No
045	0874_MW234_230504	HDPE (no PTFE)	20 mL	00350822004824	Grey	No
045	0874_MW234_230504	HDPE (no PTFE)	20 mL	00350822061257	Grey	No
046	0874_MW255_230504	HDPE (no PTFE)	20 mL	00350822061498	Grey	No
046	0874_MW255_230504	HDPE (no PTFE)	20 mL	00350822061557	Grey	No
046	0874_MW255_230504	HDPE (no PTFE)	20 mL	00350822061108	Grey	No
046	0874_MW255_230504	HDPE (no PTFE)	20 mL	00350822061183	Grey	No
047	0874_MW235_230504	HDPE (no PTFE)	20 mL	00350821038057	Grey	No

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME:

RECEIVED [Redacted]
 DATE TIME: 9/5/23
 @ 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PASOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]
 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: [Redacted]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

047	0874_MW235_230504	HDPE (no PTFE)	20 mL	00350821037963	Grey	No	
047	0874_MW235_230504	HDPE (no PTFE)	20 mL	00350821038187	Grey	No	
047	0874_MW235_230504	HDPE (no PTFE)	20 mL	00350821037976	Grey	No	
048	0874_MW112_230504	HDPE (no PTFE)	20 mL	00350822061465	Grey	No	
048	0874_MW112_230504	HDPE (no PTFE)	20 mL	00350822061161	Grey	No	
048	0874_MW112_230504	HDPE (no PTFE)	20 mL	00350822061107	Grey	No	
048	0874_MW112_230504	HDPE (no PTFE)	20 mL	00350822061431	Grey	No	
049	0874_MW245_230504	HDPE (no PTFE)	20 mL	00350822004936	Grey	No	
049	0874_MW245_230504	HDPE (no PTFE)	20 mL	00350822004894	Grey	No	
049	0874_MW245_230504	HDPE (no PTFE)	20 mL	00350822061543	Grey	No	
049	0874_MW245_230504	HDPE (no PTFE)	20 mL	00350822061334	Grey	No	
050	0874_MW248_230504	HDPE (no PTFE)	20 mL	00350822061479	Grey	No	
050	0874_MW248_230504	HDPE (no PTFE)	20 mL	00350822061593	Grey	No	
050	0874_MW248_230504	HDPE (no PTFE)	20 mL	00350822061197	Grey	No	
050	0874_MW248_230504	HDPE (no PTFE)	20 mL	00350822061357	Grey	No	
051	0874_MW061_230504	HDPE (no PTFE)	20 mL	00350822061201	Grey	No	
051	0874_MW061_230504	HDPE (no PTFE)	20 mL	00350822061277	Grey	No	
051	0874_MW061_230504	HDPE (no PTFE)	20 mL	00350822061231	Grey	No	
051	0874_MW061_230504	HDPE (no PTFE)	20 mL	00350822061511	Grey	No	
052	0874_MW232_230504	HDPE (no PTFE)	20 mL	00350822061081	Grey	No	
052	0874_MW232_230504	HDPE (no PTFE)	20 mL	00350822061549	Grey	No	
052	0874_MW232_230504	HDPE (no PTFE)	20 mL	00350822061194	Grey	No	
052	0874_MW232_230504	HDPE (no PTFE)	20 mL	00350822061567	Grey	No	
053	0874_MW224_230504	HDPE (no PTFE)	20 mL	00350822061340	Grey	No	
053	0874_MW224_230504	HDPE (no PTFE)	20 mL	00350822061523	Grey	No	
053	0874_MW224_230504	HDPE (no PTFE)	20 mL	00350822061180	Grey	No	
053	0874_MW224_230504	HDPE (no PTFE)	20 mL	00350822061297	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME: [Redacted] 9/5/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]
 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [Redacted]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

054	0874_MW223_230504	HDPE (no PTFE)	20 mL	00350822061251	Grey	No
054	0874_MW223_230504	HDPE (no PTFE)	20 mL	00350822061375	Grey	No
054	0874_MW223_230504	HDPE (no PTFE)	20 mL	00350822061451	Grey	No
054	0874_MW223_230504	HDPE (no PTFE)	20 mL	00350822061286	Grey	No
055	0874_MW009_230504	HDPE (no PTFE)	20 mL	00350822061336	Grey	No
055	0874_MW009_230504	HDPE (no PTFE)	20 mL	00350822061370	Grey	No
055	0874_MW009_230504	HDPE (no PTFE)	20 mL	00350822061170	Grey	No
055	0874_MW009_230504	HDPE (no PTFE)	20 mL	00350822061067	Grey	No
056	0874_MW247_230504	HDPE (no PTFE)	20 mL	00350822061148	Grey	No
056	0874_MW247_230504	HDPE (no PTFE)	20 mL	00350822061223	Grey	No
056	0874_MW247_230504	HDPE (no PTFE)	20 mL	00350822061331	Grey	No
056	0874_MW247_230504	HDPE (no PTFE)	20 mL	00350822061303	Grey	No
057	0874_MW125_230504	HDPE (no PTFE)	20 mL	00350822061444	Grey	No
057	0874_MW125_230504	HDPE (no PTFE)	20 mL	00350822061154	Grey	No
057	0874_MW125_230504	HDPE (no PTFE)	20 mL	00350822061592	Grey	No
057	0874_MW125_230504	HDPE (no PTFE)	20 mL	00350822061388	Grey	No
058	0874_MW038_230504	HDPE (no PTFE)	20 mL	00350822061252	Grey	No
058	0874_MW038_230504	HDPE (no PTFE)	20 mL	00350822061037	Grey	No
058	0874_MW038_230504	HDPE (no PTFE)	20 mL	00350822061575	Grey	No
058	0874_MW038_230504	HDPE (no PTFE)	20 mL	00350822061190	Grey	No
059	0874_MW063_230504	HDPE (no PTFE)	20 mL	00350822061458	Grey	No
059	0874_MW063_230504	HDPE (no PTFE)	20 mL	00350822061372	Grey	No
059	0874_MW063_230504	HDPE (no PTFE)	20 mL	00350822061313	Grey	No
059	0874_MW063_230504	HDPE (no PTFE)	20 mL	00350822061195	Grey	No
060	0874_MW033_230504	HDPE (no PTFE)	20 mL	00350822061027	Grey	No
060	0874_MW033_230504	HDPE (no PTFE)	20 mL	00350822061586	Grey	No
060	0874_MW033_230504	HDPE (no PTFE)	20 mL	00350822061422	Grey	No

RELINQUISHED BY:
 DATE TIME:

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 DATE TIME: 9/5/23
 2:5:00


CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER:
 PRIMARY SAMPLER:
 EMAIL REPORTS TO:

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

CONTACT PH:
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

ID	Sample ID	Material	Volume	Barcode	Color	Seal Status
060	0874_MW033_230504	HDPE (no PTFE)	20 mL	00350822061468	Grey	No
061	0874_MW034_230504	HDPE (no PTFE)	20 mL	00350822061392	Grey	No
061	0874_MW034_230504	HDPE (no PTFE)	20 mL	00350822061164	Grey	No
061	0874_MW034_230504	HDPE (no PTFE)	20 mL	00350822061112	Grey	No
061	0874_MW034_230504	HDPE (no PTFE)	20 mL	00350822061120	Grey	No
062	0874_MW026_230504	HDPE (no PTFE)	20 mL	00350822061158	Grey	No
062	0874_MW026_230504	HDPE (no PTFE)	20 mL	00350822061084	Grey	No
062	0874_MW026_230504	HDPE (no PTFE)	20 mL	00350822061411	Grey	No
062	0874_MW026_230504	HDPE (no PTFE)	20 mL	00350822061420	Grey	No
063	0874_MW120_230504	HDPE (no PTFE)	20 mL	00350822061574	Grey	No
063	0874_MW120_230504	HDPE (no PTFE)	20 mL	00350822061312	Grey	No
063	0874_MW120_230504	HDPE (no PTFE)	20 mL	00350822061077	Grey	No
063	0874_MW120_230504	HDPE (no PTFE)	20 mL	00350822061449	Grey	No
064	0874_QC123_230504	HDPE (no PTFE)	20 mL	00350822061363	Grey	No
064	0874_QC123_230504	HDPE (no PTFE)	20 mL	00350822061401	Grey	No
064	0874_QC123_230504	HDPE (no PTFE)	20 mL	00350822061100	Grey	No
064	0874_QC123_230504	HDPE (no PTFE)	20 mL	00350822061253	Grey	No
065	0874_MW300_230504	HDPE (no PTFE)	20 mL	00350821038287	Grey	No
065	0874_MW300_230504	HDPE (no PTFE)	20 mL	00350821038269	Grey	No
065	0874_MW300_230504	HDPE (no PTFE)	20 mL	00350821038185	Grey	No
065	0874_MW300_230504	HDPE (no PTFE)	20 mL	00350821038219	Grey	No
066	0874_MW229_230504	HDPE (no PTFE)	20 mL	00350821038213	Grey	No
066	0874_MW229_230504	HDPE (no PTFE)	20 mL	00350821038204	Grey	No
066	0874_MW229_230504	HDPE (no PTFE)	20 mL	00350821038240	Grey	No
066	0874_MW229_230504	HDPE (no PTFE)	20 mL	00350821037892	Grey	No
067	0874_MW227_230504	HDPE (no PTFE)	20 mL	00350522052957	Grey	No
067	0874_MW227_230504	HDPE (no PTFE)	20 mL	00350522053070	Grey	No

 CHAIN OF CUSTODY COC#: 51574 ALS Laboratory: ET Townsville	RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME:	RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME: 9/5/23 @ 8:10
	CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD PROJECT: QLD_0874_PFASOMP_23 (v2) SITE: 0874_RAAF Wet season ORDER NO: 60612487_2.1 PROJECT MANAGER: [REDACTED] PRIMARY SAMPLER: [REDACTED] EMAIL REPORTS TO: [REDACTED]	TURNAROUND REQUIREMENTS: 5 Days Biohazard info:	LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:	

CONTACT PH: [REDACTED]
QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

ID	Sample ID	Material	Volume	Barcode	Color	Seal
067	0874_MW227_230504	HDPE (no PTFE)	20 mL	00350821037903	Grey	No
067	0874_MW227_230504	HDPE (no PTFE)	20 mL	00350821038188	Grey	No
068	0874_MW226_230504	HDPE (no PTFE)	20 mL	00350821038253	Grey	No
068	0874_MW226_230504	HDPE (no PTFE)	20 mL	00350821038184	Grey	No
068	0874_MW226_230504	HDPE (no PTFE)	20 mL	00350821038255	Grey	No
068	0874_MW226_230504	HDPE (no PTFE)	20 mL	00350821038088	Grey	No
069	0874_MW222_230504	HDPE (no PTFE)	20 mL	00350821038175	Grey	No
069	0874_MW222_230504	HDPE (no PTFE)	20 mL	00350821038266	Grey	No
069	0874_MW222_230504	HDPE (no PTFE)	20 mL	00350821038207	Grey	No
069	0874_MW222_230504	HDPE (no PTFE)	20 mL	00350821038235	Grey	No
070	0874_MW470_230504	HDPE (no PTFE)	20 mL	00350821037716	Grey	No
070	0874_MW470_230504	HDPE (no PTFE)	20 mL	00350821038038	Grey	No
071	0874_QC124_230504	HDPE (no PTFE)	20 mL	00350821038198	Grey	No
071	0874_QC124_230504	HDPE (no PTFE)	20 mL	00350821038090	Grey	No
071	0874_QC124_230504	HDPE (no PTFE)	20 mL	00350821037778	Grey	No
071	0874_QC124_230504	HDPE (no PTFE)	20 mL	00350821038256	Grey	No
072	0874_QC310_230504	HDPE (no PTFE)	20 mL	00350821038089	Grey	No
072	0874_QC310_230504	HDPE (no PTFE)	20 mL	00350821038021	Grey	No
072	0874_QC310_230504	HDPE (no PTFE)	20 mL	00350821038095	Grey	No
072	0874_QC310_230504	HDPE (no PTFE)	20 mL	00350821038154	Grey	No
073	0847_QC550_230504	HDPE (no PTFE)	20 mL	00352010056620	Grey	No
073	0847_QC550_230504	HDPE (no PTFE)	20 mL	00352010056611	Grey	No
074	0874_QC122_230504	HDPE (no PTFE)	20 mL	00350822061114	Grey	No
074	0874_QC122_230504	HDPE (no PTFE)	20 mL	00350822061537	Grey	No
074	0874_QC122_230504	HDPE (no PTFE)	20 mL	00350822061025	Grey	No
074	0874_QC122_230504	HDPE (no PTFE)	20 mL	00350822061009	Grey	No
075	0874_QC551_230505	HDPE (no PTFE)	20 mL	00352010056688	Grey	No

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY: [Redacted]
 DATE TIME: 5/5/23
 @ 8:40

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: 0874_RAAF Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]
 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [Redacted]
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

LABORATORY USE ONLY (Circle)

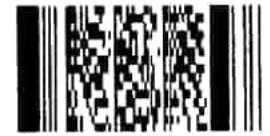
Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

075	0874_QC551_230505	HDPE (no PTFE)	20 mL	00352010056721	Grey	No
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Total Bottle Count: ALS: 270, Non ALS: 0

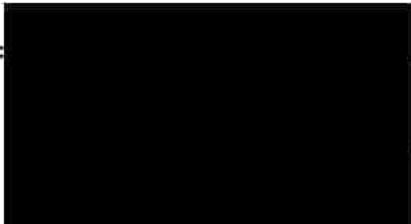
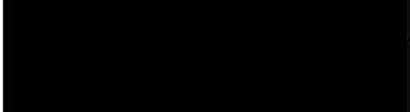


Environmental Division
Townsville
Work Order Reference
ET2302250

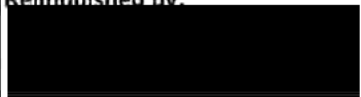
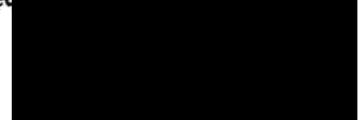



Telephone : +61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 
 ALS Compass COC Reference: 51310 # Samples: 138 Sampler: 
 Turnaround Requirements: Standard 10 days Urgent

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:			
Relinquished by: 	Received by: 	Relinquished by:	Received by: 
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23 9:04</u>



CHAIN OF CUSTODY

COC#: 51302 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free Ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:

CONTACT PH: SAMPLER MOBILE:
QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

SAMPLE DETAILS ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW239_230420		20/04/2023 01:50 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_MW225_230420		20/04/2023 02:35 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
003	8074_MW220_230420		20/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_MW267_230420		20/04/2023 03:15 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
005	0874_MW219_230420		20/04/2023 03:51 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_QC380_230420		20/04/2023 04:21 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
007	0874_MW263_230421		21/04/2023 10:33 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_MW221_230421		22/04/2023 09:45 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
009	0874_MW217_230421		21/04/2023 10:59 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51302 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC153_230421		21/04/2023 11:01 AM	WATER	ALS: 4 Non ALS: 0	Yes	-		
011	0874_MW301_230421		21/04/2023 11:47 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_MW208_230421		21/04/2023 12:07 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_MW207_230421		21/04/2023 12:31 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_MW205_230421		21/04/2023 12:49 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
015	0874_MW205_230421		21/04/2023 01:08 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_MW204_230421		21/04/2023 01:29 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_MW216_230421		21/04/2023 02:52 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
018	0874_MW264_230421		21/04/2023 03:10 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51302 ALS Laboratory: ET Townsville

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

 CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: QLD_0874 [REDACTED]
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

 TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

 CONTACT PH: [REDACTED] SAMPLER MOBILE:
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 1

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW215_230421		21/04/2023 03:32 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
.020	0874_QC154_230421		21/04/2023 03:34 PM	WATER	ALS: 4 Non ALS: 0	Yes	-		
021	0874_MW214_230421		21/04/2023 03:59 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
022	0874_QC381_230421		21/04/2023 04:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51302

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW239_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW225_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	8074_MW220_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW267_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW219_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_QC380_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_MW263_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_MW221_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
009	0874_MW217_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW301_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW208_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW207_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW205_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW205_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
016	0874_MW204_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51302 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

017	0874_MW216_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_MW264_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW215_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW214_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC381_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51302 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW239_230420	HDPE (no PTFE)	20 mL	00350822061333	Grey	No	
001	0874_MW239_230420	HDPE (no PTFE)	20 mL	00350822061522	Grey	No	
001	0874_MW239_230420	HDPE (no PTFE)	20 mL	00350822061035	Grey	No	
001	0874_MW239_230420	HDPE (no PTFE)	20 mL	00350822061182	Grey	No	
002	0874_MW225_230420	HDPE (no PTFE)	20 mL	00350822061560	Grey	No	
002	0874_MW225_230420	HDPE (no PTFE)	20 mL	00350822061338	Grey	No	
002	0874_MW225_230420	HDPE (no PTFE)	20 mL	00350822061599	Grey	No	
002	0874_MW225_230420	HDPE (no PTFE)	20 mL	00350822061439	Grey	No	
003	8074_MW220_230420	HDPE (no PTFE)	20 mL	00350822061385	Grey	No	
003	8074_MW220_230420	HDPE (no PTFE)	20 mL	00350822061172	Grey	No	
003	8074_MW220_230420	HDPE (no PTFE)	20 mL	00350822061292	Grey	No	
003	8074_MW220_230420	HDPE (no PTFE)	20 mL	00350822061395	Grey	No	
004	0874_MW267_230420	HDPE (no PTFE)	20 mL	00350822061306	Grey	No	
004	0874_MW267_230420	HDPE (no PTFE)	20 mL	00350822061512	Grey	No	
004	0874_MW267_230420	HDPE (no PTFE)	20 mL	00350822061099	Grey	No	
004	0874_MW267_230420	HDPE (no PTFE)	20 mL	00350822061506	Grey	No	
005	0874_MW219_230420	HDPE (no PTFE)	20 mL	00350822061399	Grey	No	
005	0874_MW219_230420	HDPE (no PTFE)	20 mL	00350822061173	Grey	No	
005	0874_MW219_230420	HDPE (no PTFE)	20 mL	00350822061057	Grey	No	
005	0874_MW219_230420	HDPE (no PTFE)	20 mL	00350822061086	Grey	No	
006	0874_QC380_230420	HDPE (no PTFE)	20 mL	00350522052915	Grey	No	
006	0874_QC380_230420	HDPE (no PTFE)	20 mL	00350522052881	Grey	No	
006	0874_QC380_230420	HDPE (no PTFE)	20 mL	00350522053025	Grey	No	
006	0874_QC380_230420	HDPE (no PTFE)	20 mL	00350522053013	Grey	No	
007	0874_MW263_230421	HDPE (no PTFE)	20 mL	00350822061364	Grey	No	
007	0874_MW263_230421	HDPE (no PTFE)	20 mL	00350822061390	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51302

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

007	0874_MW263_230421	HDPE (no PTFE)	20 mL	00350822061122	Grey	No	
007	0874_MW263_230421	HDPE (no PTFE)	20 mL	00350822061412	Grey	No	
008	0874_MW221_230421	HDPE (no PTFE)	20 mL	00350822061106	Grey	No	
008	0874_MW221_230421	HDPE (no PTFE)	20 mL	00350822061429	Grey	No	
008	0874_MW221_230421	HDPE (no PTFE)	20 mL	00350822061460	Grey	No	
008	0874_MW221_230421	HDPE (no PTFE)	20 mL	00350822061094	Grey	No	
009	0874_MW217_230421	HDPE (no PTFE)	20 mL	00350822061278	Grey	No	
009	0874_MW217_230421	HDPE (no PTFE)	20 mL	00350822061268	Grey	No	
009	0874_MW217_230421	HDPE (no PTFE)	20 mL	00350822061358	Grey	No	
009	0874_MW217_230421	HDPE (no PTFE)	20 mL	00350822061288	Grey	No	
010	0874_QC153_230421	HDPE (no PTFE)	20 mL	00350822061256	Grey	No	
010	0874_QC153_230421	HDPE (no PTFE)	20 mL	00350822061243	Grey	No	
010	0874_QC153_230421	HDPE (no PTFE)	20 mL	00350822061010	Grey	No	
010	0874_QC153_230421	HDPE (no PTFE)	20 mL	00350822061493	Grey	No	
011	0874_MW301_230421	HDPE (no PTFE)	20 mL	00350822061137	Grey	No	
011	0874_MW301_230421	HDPE (no PTFE)	20 mL	00350822061310	Grey	No	
011	0874_MW301_230421	HDPE (no PTFE)	20 mL	00350822061255	Grey	No	
011	0874_MW301_230421	HDPE (no PTFE)	20 mL	00350822061384	Grey	No	
012	0874_MW208_230421	HDPE (no PTFE)	20 mL	00350822061040	Grey	No	
012	0874_MW208_230421	HDPE (no PTFE)	20 mL	00350822061426	Grey	No	
012	0874_MW208_230421	HDPE (no PTFE)	20 mL	00350822061028	Grey	No	
012	0874_MW208_230421	HDPE (no PTFE)	20 mL	00350822061056	Grey	No	
013	0874_MW207_230421	HDPE (no PTFE)	20 mL	00350822061065	Grey	No	
013	0874_MW207_230421	HDPE (no PTFE)	20 mL	00350822061362	Grey	No	
013	0874_MW207_230421	HDPE (no PTFE)	20 mL	00350822061382	Grey	No	
013	0874_MW207_230421	HDPE (no PTFE)	20 mL	00350822061030	Grey	No	
014	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061337	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51302

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

014	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061380	Grey	No	
014	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061276	Grey	No	
014	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061350	Grey	No	
015	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061505	Grey	No	
015	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061102	Grey	No	
015	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061178	Grey	No	
015	0874_MW205_230421	HDPE (no PTFE)	20 mL	00350822061284	Grey	No	
016	0874_MW204_230421	HDPE (no PTFE)	20 mL	00350822061396	Grey	No	
016	0874_MW204_230421	HDPE (no PTFE)	20 mL	00350822061349	Grey	No	
016	0874_MW204_230421	HDPE (no PTFE)	20 mL	00350822061540	Grey	No	
016	0874_MW204_230421	HDPE (no PTFE)	20 mL	00350822061026	Grey	No	
017	0874_MW216_230421	HDPE (no PTFE)	20 mL	00350822061496	Grey	No	
017	0874_MW216_230421	HDPE (no PTFE)	20 mL	00350822061501	Grey	No	
017	0874_MW216_230421	HDPE (no PTFE)	20 mL	00350822061589	Grey	No	
017	0874_MW216_230421	HDPE (no PTFE)	20 mL	00350822061548	Grey	No	
018	0874_MW264_230421	HDPE (no PTFE)	20 mL	00350822061446	Grey	No	
018	0874_MW264_230421	HDPE (no PTFE)	20 mL	00350822061126	Grey	No	
018	0874_MW264_230421	HDPE (no PTFE)	20 mL	00350822061490	Grey	No	
018	0874_MW264_230421	HDPE (no PTFE)	20 mL	00350822061345	Grey	No	
019	0874_MW215_230421	HDPE (no PTFE)	20 mL	00350822061244	Grey	No	
019	0874_MW215_230421	HDPE (no PTFE)	20 mL	00350822061101	Grey	No	
019	0874_MW215_230421	HDPE (no PTFE)	20 mL	00350822061330	Grey	No	
019	0874_MW215_230421	HDPE (no PTFE)	20 mL	00350822061074	Grey	No	
020	0874_QC154_230421	HDPE (no PTFE)	20 mL	00350822061260	Grey	No	
020	0874_QC154_230421	HDPE (no PTFE)	20 mL	00350822061361	Grey	No	
020	0874_QC154_230421	HDPE (no PTFE)	20 mL	00350822061502	Grey	No	
020	0874_QC154_230421	HDPE (no PTFE)	20 mL	00350822061492	Grey	No	



CHAIN OF CUSTODY

COC#: 51302 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]
PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days
Biohazard info:

CONTACT PH: [REDACTED] SAMPLER MOBILE:
QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)
Custody Seal intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comments:

021	0874_MW214_230421	HDPE (no PTFE)	20 mL	00350822061110	Grey	No	
021	0874_MW214_230421	HDPE (no PTFE)	20 mL	00350822061403	Grey	No	
021	0874_MW214_230421	HDPE (no PTFE)	20 mL	00350822061566	Grey	No	
021	0874_MW214_230421	HDPE (no PTFE)	20 mL	00350822061241	Grey	No	
022	0874_QC381_230421	HDPE (no PTFE)	20 mL	00350822061274	Grey	No	
022	0874_QC381_230421	HDPE (no PTFE)	20 mL	00350822061339	Grey	No	
022	0874_QC381_230421	HDPE (no PTFE)	20 mL	00350822061533	Grey	No	
022	0874_QC381_230421	HDPE (no PTFE)	20 mL	00350822061503	Grey	No	

Total Bottle Count: ALS: 88, Non ALS: 0


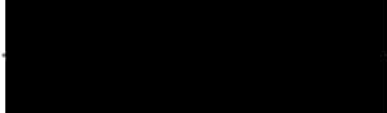
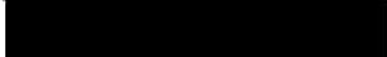


Environmental Division
Townsville
Work Order Reference
ET2302252

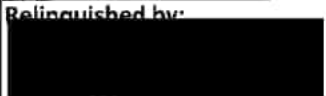




Telephone : + 61 7 4773 3000

Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 
 ALS Compass COC Reference: 51310 # Samples: 138 Sampler: 
51226
51432
51257
51302 Phone: 
 Turnaround Requirements: Standard 10 days Urgent

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:			
Relinquished by: 	Received by: 	Relinquished by:	Received by: 
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23 9:04</u>

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**SAMPLE DETAILS****ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW218_230425		25/04/2023 12:15 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_MW213_230425		25/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
003	0874_MW212_230425		25/04/2023 12:12 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_MW211_230425		25/04/2023 12:13 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
005	0874_MW467_230425		25/04/2023 12:11 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_MW471_230425		25/04/2023 12:12 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
007	0874_QC306_230425		25/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_QC115_230425		25/04/2023 12:15 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
009	0874_QC116_230425		25/04/2023 12:16 PM	WATER	ALS: 4 Non ALS: 0	Yes	-		

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW005_230426		26/04/2023 02:55 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
011	0874_MW138_230426		26/04/2023 02:56 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_MW109_230426		26/04/2023 02:57 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_MW055_230426		26/04/2023 02:58 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_MW110_230426		26/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
015	0874_MW090_230426		26/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_MW139_230426		26/04/2023 03:01 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_MW054_230426		26/04/2023 03:02 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
018	0874_QC118_230426		26/04/2023 03:03 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW046_230426		26/04/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
020	0874_MW081_230426		26/04/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
021	0874_MW246_230426		26/04/2023 03:06 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
022	0874_QC117_230426		26/04/2023 03:07 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
023	0874_QC307_230426		26/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW218_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW213_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW212_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW211_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW467_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW471_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_QC306_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_QC115_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW005_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW138_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW109_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW055_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW110_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW090_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
016	0874_MW139_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51432 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

017	0874_MW054_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_QC118_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW046_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW081_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW246_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC117_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
023	0874_QC307_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004865	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004961	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004881	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822005008	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004834	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004860	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004938	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822028770	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822028758	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004806	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004904	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004839	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004947	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004888	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004851	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822028757	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822028766	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822004898	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822004916	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822028741	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822005003	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822028796	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822004889	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822028785	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822005050	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822004854	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822005022	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822004933	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004871	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822028799	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004870	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004963	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004831	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004840	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004878	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004852	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061225	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061322	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061041	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061556	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061289	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061402	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061436	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061346	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061413	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061551	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061300	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061205	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061163	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061406	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061185	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061259	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061546	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061389	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061283	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061547	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061098	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061022	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061594	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061192	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061469	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061488	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061561	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061209	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061457	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061208	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061409	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061417	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061314	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061415	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061315	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061514	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061044	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061341	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061553	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061326	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061562	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061075	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061282	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061221	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061023	Grey	No	
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061473	Grey	No	
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061279	Grey	No	
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061517	Grey	No	
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061166	Grey	No	
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061508	Grey	No	
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061169	Grey	No	
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061304	Grey	No	
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061428	Grey	No	
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061455	Grey	No	
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061034	Grey	No	
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061480	Grey	No	

Total Bottle Count: ALS: 92, Non ALS: 0

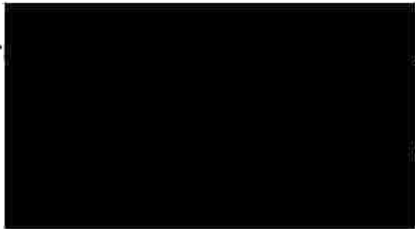

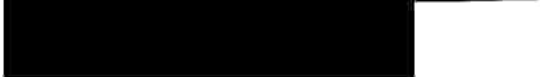


Environmental Division
Townsville
Work Order Reference
ET2302252

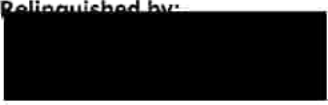

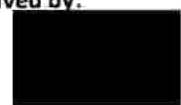


Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 
 ALS Compass COC Reference: 51310 # Samples: 138 Sampler: 
51226
51432
51257
51302 Phone: 
 Turnaround Requirements: Standard 10 days Urgent

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:			
Relinquished by:	Received by:	Relinquished by:	Received by:
			
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23 9:04</u>

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_MW218_230425		25/04/2023 12:15 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_MW213_230425		25/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
003	0874_MW212_230425		25/04/2023 12:12 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_MW211_230425		25/04/2023 12:13 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
005	0874_MW467_230425		25/04/2023 12:11 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_MW471_230425		25/04/2023 12:12 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
007	0874_QC306_230425		25/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_QC115_230425		25/04/2023 12:15 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
009	0874_QC116_230425		25/04/2023 12:16 PM	WATER	ALS: 4 Non ALS: 0	Yes	-		

**CHAIN OF CUSTODY**

COC#: 51432 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season [REDACTED]

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_MW005_230426		26/04/2023 02:55 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
011	0874_MW138_230426		26/04/2023 02:56 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_MW109_230426		26/04/2023 02:57 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_MW055_230426		26/04/2023 02:58 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_MW110_230426		26/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
015	0874_MW090_230426		26/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_MW139_230426		26/04/2023 03:01 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_MW054_230426		26/04/2023 03:02 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
018	0874_QC118_230426		26/04/2023 03:03 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_MW046_230426		26/04/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
020	0874_MW081_230426		26/04/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
021	0874_MW246_230426		26/04/2023 03:06 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
022	0874_QC117_230426		26/04/2023 03:07 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
023	0874_QC307_230426		26/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51432 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_MW218_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_MW213_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	0874_MW212_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_MW211_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_MW467_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_MW471_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_QC306_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_QC115_230425	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_MW005_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_MW138_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_MW109_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_MW055_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_MW110_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_MW090_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
016	0874_MW139_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

017	0874_MW054_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_QC118_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_MW046_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
020	0874_MW081_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_MW246_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC117_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
023	0874_QC307_230426	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free Ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004865	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004961	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822004881	Grey	No	
001	0874_MW218_230425	HDPE (no PTFE)	20 mL	00350822005008	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004834	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004860	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822004938	Grey	No	
002	0874_MW213_230425	HDPE (no PTFE)	20 mL	00350822028770	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822028758	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004806	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004904	Grey	No	
003	0874_MW212_230425	HDPE (no PTFE)	20 mL	00350822004839	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004947	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004888	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822004851	Grey	No	
004	0874_MW211_230425	HDPE (no PTFE)	20 mL	00350822028757	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822028766	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822004898	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822004916	Grey	No	
005	0874_MW467_230425	HDPE (no PTFE)	20 mL	00350822028741	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822005003	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822028796	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822004889	Grey	No	
006	0874_MW471_230425	HDPE (no PTFE)	20 mL	00350822028785	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822005050	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822004854	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51432

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822005022	Grey	No	
007	0874_QC306_230425	HDPE (no PTFE)	20 mL	00350822004933	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004871	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822028799	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004870	Grey	No	
008	0874_QC115_230425	HDPE (no PTFE)	20 mL	00350822004963	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004831	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004840	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004878	Grey	No	
009	0874_QC116_230425	HDPE (no PTFE)	20 mL	00350822004852	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061225	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061322	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061041	Grey	No	
010	0874_MW005_230426	HDPE (no PTFE)	20 mL	00350822061556	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061289	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061402	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061436	Grey	No	
011	0874_MW138_230426	HDPE (no PTFE)	20 mL	00350822061346	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061413	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061551	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061300	Grey	No	
012	0874_MW109_230426	HDPE (no PTFE)	20 mL	00350822061205	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061163	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061406	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061165	Grey	No	
013	0874_MW055_230426	HDPE (no PTFE)	20 mL	00350822061259	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061546	Grey	No	



CHAIN OF CUSTODY

COC#: 51432 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061389	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061283	Grey	No	
014	0874_MW110_230426	HDPE (no PTFE)	20 mL	00350822061547	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061098	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061022	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061594	Grey	No	
015	0874_MW090_230426	HDPE (no PTFE)	20 mL	00350822061192	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061469	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061488	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061561	Grey	No	
016	0874_MW139_230426	HDPE (no PTFE)	20 mL	00350822061209	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061457	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061208	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061409	Grey	No	
017	0874_MW054_230426	HDPE (no PTFE)	20 mL	00350822061417	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061314	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061415	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061315	Grey	No	
018	0874_QC118_230426	HDPE (no PTFE)	20 mL	00350822061514	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061044	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061341	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061553	Grey	No	
019	0874_MW046_230426	HDPE (no PTFE)	20 mL	00350822061326	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061562	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061075	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061282	Grey	No	
020	0874_MW081_230426	HDPE (no PTFE)	20 mL	00350822061221	Grey	No	



CHAIN OF CUSTODY

COC#: 51432 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

ID	Sample ID	Material	Volume	Barcode	Color	Seal
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061023	Grey	No
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061473	Grey	No
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061279	Grey	No
021	0874_MW246_230426	HDPE (no PTFE)	20 mL	00350822061517	Grey	No
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061166	Grey	No
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061508	Grey	No
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061169	Grey	No
022	0874_QC117_230426	HDPE (no PTFE)	20 mL	00350822061304	Grey	No
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061428	Grey	No
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061455	Grey	No
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061034	Grey	No
023	0874_QC307_230426	HDPE (no PTFE)	20 mL	00350822061480	Grey	No

Total Bottle Count: ALS: 92, Non ALS: 0

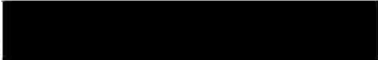
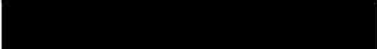
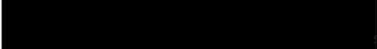



Environmental Division
Townsville
Work Order Reference
ET2302222

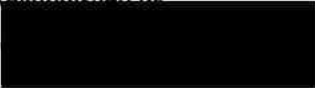
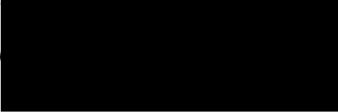
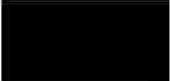


Telephone : - 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 
 ALS Compass COC Reference: 51310 # Samples: 138 Phone: 
51226
51432 Sampler: 
51257 Phone: 
51302 Turnaround Requirements: Standard 10 days Urgent

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:			
Relinquished by: 	Received by: 	Relinquished by:	Received by: 
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23</u> <u>9:04</u>

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/007/21 v2 - Compass

SAMPLER MOBILE:
 / ET2021AECOMAU000
 1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW127_230421		21/04/2023 09:11 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
002	0874_SW129_230421		21/04/2023 09:29 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
003	0874_SW014_230421		21/04/2023 10:43 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
004	0874_SW112_230421		21/04/2023 10:10 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
005	0874_SW017_230421		21/04/2023 10:59 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
006	0874_SW121_230421		21/04/2023 02:33 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
007	0874_SW010_230421		21/04/2023 11:23 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
008	0874_SW132_230421		21/04/2023 11:37 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
009	0874_SW123_230421		21/04/2023 11:58 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			ADDITIONAL INFORMATION
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	
010	0874_SW125_230421		21/04/2023 12:32 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
011	0874_SW016_230421		21/04/2023 12:49 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
012	0874_SW131_230421		21/04/2023 01:02 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
013	0874_SW102_230421		21/04/2023 01:23 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
014	0874_SW117_230421		21/04/2023 02:59 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
015	0874_SW118_230421		21/04/2023 03:15 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
016	0874_SW115_230421		21/04/2023 03:28 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
017	0874_SW116_230421		21/04/2023 03:52 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
018	0874_SW109_230421		21/04/2023 04:04 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		

**CHAIN OF CUSTODY**

ALS COC#: 51310 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**SAMPLE DETAILS****ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW108_230421		21/04/2023 04:13 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
020	0874_QC304_230421		21/04/2023 04:17 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
021	0874_SD127_230421		21/04/2023 10:21 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
022	0874_SD129_230421		21/04/2023 10:22 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
023	0874_SD014_230421		21/04/2023 10:46 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
024	0874_SD112_230421		21/04/2023 10:21 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
025	0874_SD017_230421		21/04/2023 11:02 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
026	0874_SD121_230421		21/04/2023 02:32 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
027	0874_SD010_230421		21/04/2023 11:24 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

RELINQUISHED BY:
DATE TIME:

RECEIVED BY:
DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: QLD_0874 SW/SD
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

PROJECT MANAGER:
PRIMARY SAMPLER:

CONTACT PH:
QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
SAMPLER MOBILE:
1

EMAIL REPORTS TO:
EMAIL INVOICES TO:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SD132_230421		21/04/2023 11:37 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
029	0874_SD123_230421		21/04/2023 11:59 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
030	0874_SD125_230421		21/04/2023 12:32 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
031	0874_SD016_230421		21/04/2023 12:49 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
032	0874_SD131_230421		21/04/2023 01:02 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
033	0874_SD102_230421		21/04/2023 01:23 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
034	0874_SD117_230421		21/04/2023 03:05 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
035	0874_SD118_230421		21/04/2023 03:15 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
036	0874_SD115_230421		21/04/2023 03:31 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			

**CHAIN OF CUSTODY**

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_SD116_230421		21/04/2023 03:53 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
038	0874_SD109_230421		21/04/2023 04:05 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
039	0874_SD108_230421		21/04/2023 04:15 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
040	0874_QC108_230421		21/04/2023 10:47 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
041	0874_QC109_230421		21/04/2023 10:45 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
042	0874_QC110_230421		21/04/2023 03:01 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
043	0874_QC111_230421		21/04/2023 03:05 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			



CHAIN OF CUSTODY

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW127_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW129_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW014_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW112_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW017_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW121_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW010_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW132_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW123_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW125_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW016_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW131_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW102_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW117_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW118_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016	0874_SW115_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
017	0874_SW116_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SW109_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_SW108_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC304_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_SD127_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
022	0874_SD129_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
023	0874_SD014_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
024	0874_SD112_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
025	0874_SD017_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
026	0874_SD121_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
027	0874_SD010_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
028	0874_SD132_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
029	0874_SD123_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
030	0874_SD125_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
031	0874_SD016_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032	0874_SD131_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
033	0874_SD102_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
034	0874_SD117_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
035	0874_SD118_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
036	0874_SD115_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
037	0874_SD116_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
038	0874_SD109_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
039	0874_SD108_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
040	0874_QC108_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
041	0874_QC109_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
042	0874_QC110_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
043	0874_QC111_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_230421	HDPE (no PTFE)	20 mL	00350822061371	Grey	No	
001	0874_SW127_230421	HDPE (no PTFE)	20 mL	00350822061233	Grey	No	
001	0874_SW127_230421	HDPE (no PTFE)	20 mL	00350822061254	Grey	No	
001	0874_SW127_230421	HDPE (no PTFE)	20 mL	00350822061423	Grey	No	
002	0874_SW129_230421	HDPE (no PTFE)	20 mL	00350822061467	Grey	No	
002	0874_SW129_230421	HDPE (no PTFE)	20 mL	00350822061211	Grey	No	
002	0874_SW129_230421	HDPE (no PTFE)	20 mL	00350822061202	Grey	No	
002	0874_SW129_230421	HDPE (no PTFE)	20 mL	00350822061581	Grey	No	
003	0874_SW014_230421	HDPE (no PTFE)	20 mL	00350822061198	Grey	No	
003	0874_SW014_230421	HDPE (no PTFE)	20 mL	00350822061343	Grey	No	
003	0874_SW014_230421	HDPE (no PTFE)	20 mL	00350822061571	Grey	No	
003	0874_SW014_230421	HDPE (no PTFE)	20 mL	00350822061013	Grey	No	
004	0874_SW112_230421	HDPE (no PTFE)	20 mL	00350822061131	Grey	No	
004	0874_SW112_230421	HDPE (no PTFE)	20 mL	00350822061021	Grey	No	
004	0874_SW112_230421	HDPE (no PTFE)	20 mL	00350822061353	Grey	No	
004	0874_SW112_230421	HDPE (no PTFE)	20 mL	00350822061271	Grey	No	
005	0874_SW017_230421	HDPE (no PTFE)	20 mL	00350822061515	Grey	No	
005	0874_SW017_230421	HDPE (no PTFE)	20 mL	00350822061038	Grey	No	
005	0874_SW017_230421	HDPE (no PTFE)	20 mL	00350822061414	Grey	No	
005	0874_SW017_230421	HDPE (no PTFE)	20 mL	00350822061590	Grey	No	
006	0874_SW121_230421	HDPE (no PTFE)	20 mL	00350822061448	Grey	No	
006	0874_SW121_230421	HDPE (no PTFE)	20 mL	00350822061452	Grey	No	
006	0874_SW121_230421	HDPE (no PTFE)	20 mL	00350822061258	Grey	No	
006	0874_SW121_230421	HDPE (no PTFE)	20 mL	00350822061367	Grey	No	
007	0874_SW010_230421	HDPE (no PTFE)	20 mL	00350822061470	Grey	No	
007	0874_SW010_230421	HDPE (no PTFE)	20 mL	00350822061051	Grey	No	



CHAIN OF CUSTODY

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

007	0874_SW010_230421	HDPE (no PTFE)	20 mL	00350822061386	Grey	No	
007	0874_SW010_230421	HDPE (no PTFE)	20 mL	00350822061039	Grey	No	
008	0874_SW132_230421	HDPE (no PTFE)	20 mL	00350822061497	Grey	No	
008	0874_SW132_230421	HDPE (no PTFE)	20 mL	00350822061576	Grey	No	
008	0874_SW132_230421	HDPE (no PTFE)	20 mL	00350822061219	Grey	No	
008	0874_SW132_230421	HDPE (no PTFE)	20 mL	00350822061151	Grey	No	
009	0874_SW123_230421	HDPE (no PTFE)	20 mL	00350822061287	Grey	No	
009	0874_SW123_230421	HDPE (no PTFE)	20 mL	00350822061355	Grey	No	
009	0874_SW123_230421	HDPE (no PTFE)	20 mL	00350822061453	Grey	No	
009	0874_SW123_230421	HDPE (no PTFE)	20 mL	00350822061342	Grey	No	
010	0874_SW125_230421	HDPE (no PTFE)	20 mL	00350822061167	Grey	No	
010	0874_SW125_230421	HDPE (no PTFE)	20 mL	00350822061053	Grey	No	
010	0874_SW125_230421	HDPE (no PTFE)	20 mL	00350822061213	Grey	No	
010	0874_SW125_230421	HDPE (no PTFE)	20 mL	00350822061141	Grey	No	
011	0874_SW016_230421	HDPE (no PTFE)	20 mL	00350822061237	Grey	No	
011	0874_SW016_230421	HDPE (no PTFE)	20 mL	00350822061078	Grey	No	
011	0874_SW016_230421	HDPE (no PTFE)	20 mL	00350822061305	Grey	No	
011	0874_SW016_230421	HDPE (no PTFE)	20 mL	00350822061538	Grey	No	
012	0874_SW131_230421	HDPE (no PTFE)	20 mL	00350822061177	Grey	No	
012	0874_SW131_230421	HDPE (no PTFE)	20 mL	00350822061318	Grey	No	
012	0874_SW131_230421	HDPE (no PTFE)	20 mL	00350822061132	Grey	No	
012	0874_SW131_230421	HDPE (no PTFE)	20 mL	00350822061407	Grey	No	
013	0874_SW102_230421	HDPE (no PTFE)	20 mL	00350822061534	Grey	No	
013	0874_SW102_230421	HDPE (no PTFE)	20 mL	00350822061532	Grey	No	
013	0874_SW102_230421	HDPE (no PTFE)	20 mL	00350822061482	Grey	No	
013	0874_SW102_230421	HDPE (no PTFE)	20 mL	00350822061607	Grey	No	
014	0874_SW117_230421	HDPE (no PTFE)	20 mL	00350822061144	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23 (v2)
 SITE: QLD_0874 SW/SD
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A

PROJECT MANAGER:
 PRIMARY SAMPLER:

CONTACT PH:
 QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
 SAMPLER MOBILE:
 1

Random Sample Temperature on Receipt: °C
 Other comments:

EMAIL REPORTS TO:
 EMAIL INVOICES TO:

014	0874_SW117_230421	HDPE (no PTFE)	20 mL	00350822061072	Grey	No
014	0874_SW117_230421	HDPE (no PTFE)	20 mL	00350822061531	Grey	No
014	0874_SW117_230421	HDPE (no PTFE)	20 mL	00350822061062	Grey	No
015	0874_SW118_230421	HDPE (no PTFE)	20 mL	00350822061118	Grey	No
015	0874_SW118_230421	HDPE (no PTFE)	20 mL	00350822061309	Grey	No
015	0874_SW118_230421	HDPE (no PTFE)	20 mL	00350822061029	Grey	No
015	0874_SW118_230421	HDPE (no PTFE)	20 mL	00350822061145	Grey	No
016	0874_SW115_230421	HDPE (no PTFE)	20 mL	00350822061189	Grey	No
016	0874_SW115_230421	HDPE (no PTFE)	20 mL	00350822061408	Grey	No
016	0874_SW115_230421	HDPE (no PTFE)	20 mL	00350822061419	Grey	No
016	0874_SW115_230421	HDPE (no PTFE)	20 mL	00350822061045	Grey	No
017	0874_SW116_230421	HDPE (no PTFE)	20 mL	00350822061604	Grey	No
017	0874_SW116_230421	HDPE (no PTFE)	20 mL	00350822061047	Grey	No
017	0874_SW116_230421	HDPE (no PTFE)	20 mL	00350822061248	Grey	No
017	0874_SW116_230421	HDPE (no PTFE)	20 mL	00350822061262	Grey	No
018	0874_SW109_230421	HDPE (no PTFE)	20 mL	00350822061555	Grey	No
018	0874_SW109_230421	HDPE (no PTFE)	20 mL	00350822061435	Grey	No
018	0874_SW109_230421	HDPE (no PTFE)	20 mL	00350822061054	Grey	No
018	0874_SW109_230421	HDPE (no PTFE)	20 mL	00350822061285	Grey	No
019	0874_SW108_230421	HDPE (no PTFE)	20 mL	00350822061539	Grey	No
019	0874_SW108_230421	HDPE (no PTFE)	20 mL	00350822061199	Grey	No
019	0874_SW108_230421	HDPE (no PTFE)	20 mL	00350822061146	Grey	No
019	0874_SW108_230421	HDPE (no PTFE)	20 mL	00350822061179	Grey	No
020	0874_QC304_230421	HDPE (no PTFE)	20 mL	00350822061135	Grey	No
020	0874_QC304_230421	HDPE (no PTFE)	20 mL	00350822061588	Grey	No
020	0874_QC304_230421	HDPE (no PTFE)	20 mL	00350822061379	Grey	No
020	0874_QC304_230421	HDPE (no PTFE)	20 mL	00350822061598	Grey	No

**CHAIN OF CUSTODY**

COC#: 51310

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TVJ007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

021	0874_SD127_230421	HDPE Soil Jar	200 mL	00620322093464	Grey	No	
022	0874_SD129_230421	HDPE Soil Jar	200 mL	00620322093472	Grey	No	
023	0874_SD014_230421	HDPE Soil Jar	200 mL	00620322093552	Grey	No	
024	0874_SD112_230421	HDPE Soil Jar	200 mL	00620322093446	Grey	No	
025	0874_SD017_230421	HDPE Soil Jar	200 mL	00620322093430	Grey	No	
026	0874_SD121_230421	HDPE Soil Jar	200 mL	00620322093463	Grey	No	
027	0874_SD010_230421	HDPE Soil Jar	200 mL	00621019120143	Grey	No	
028	0874_SD132_230421	HDPE Soil Jar	200 mL	00621122056917	Grey	No	
029	0874_SD123_230421	HDPE Soil Jar	200 mL	00620322093497	Grey	No	
030	0874_SD125_230421	HDPE Soil Jar	200 mL	00620322093506	Grey	No	
031	0874_SD016_230421	HDPE Soil Jar	200 mL	00621122056958	Grey	No	
032	0874_SD131_230421	HDPE Soil Jar	200 mL	00621019058822	Grey	No	
033	0874_SD102_230421	HDPE Soil Jar	200 mL	00620322093476	Grey	No	
034	0874_SD117_230421	HDPE Soil Jar	200 mL	00620322093423	Grey	No	
035	0874_SD118_230421	HDPE Soil Jar	200 mL	00620322045799	Grey	No	
036	0874_SD115_230421	HDPE Soil Jar	200 mL	00621122056967	Grey	No	
037	0874_SD116_230421	HDPE Soil Jar	200 mL	00620719044280	Grey	No	
038	0874_SD109_230421	HDPE Soil Jar	200 mL	00621122056890	Grey	No	
039	0874_SD108_230421	HDPE Soil Jar	200 mL	00621122057007	Grey	No	
040	0874_QC108_230421	HDPE Soil Jar	200 mL	00620322093457	Grey	No	
041	0874_QC109_230421	HDPE (no PTFE)	20 mL	00350822061080	Grey	No	
041	0874_QC109_230421	HDPE (no PTFE)	20 mL	00350822061016	Grey	No	
041	0874_QC109_230421	HDPE (no PTFE)	20 mL	00350822061450	Grey	No	
041	0874_QC109_230421	HDPE (no PTFE)	20 mL	00350822061147	Grey	No	
042	0874_QC110_230421	HDPE (no PTFE)	20 mL	00350822061525	Grey	No	
042	0874_QC110_230421	HDPE (no PTFE)	20 mL	00350822061445	Grey	No	
042	0874_QC110_230421	HDPE (no PTFE)	20 mL	00350822061093	Grey	No	

CHAIN OF CUSTODY

ALS COC#: 51310 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW/SD

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:RELINQUISHED BY:
DATE TIME:RECEIVED BY:
DATE TIME:TURNAROUND REQUIREMENTS: 5 Days
Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED] SAMPLER MOBILE:
QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

042	0874_QC110_230421	HDPE (no PTFE)	20 mL	00350822061520	Grey	No	
043	0874_QC111_230421	HDPE Soil Jar	200 mL	00620719044230	Grey	No	

Total Bottle Count: ALS: 109, Non ALS: 0


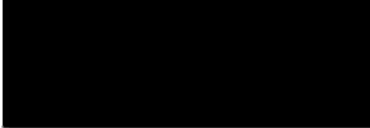



Environmental Division
 Townsville
 Work Order Reference
ET2302221

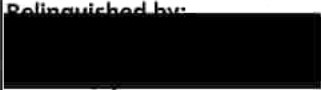




Telephone : + 61 7 4773 0000

Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 
 ALS Compass COC Reference: 51310 # Samples: 138 Sampler: 
 Turnaround Requirements: Standard 10 days Urgent Phone: 

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?	°C	

Custody:			
Relinquished by:	Received by:	Relinquished by:	Received by:
			
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23 9:04</u>



CHAIN OF CUSTODY

COC#: 51257

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED			
							Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW001_230420		20/04/2023 12:12 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
002	0874_SD001_230420		20/04/2023 12:13 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
003	0874_SW019_230421		21/04/2023 12:13 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
004	0874_SD019_230421		21/04/2023 12:15 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
005	0874_SW126_230420		20/04/2023 04:55 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
006	0874_SD126_230420		20/04/2023 04:54 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
007	0874_SW013_230420		20/04/2023 01:31 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
008	0874_SD013_230420		20/04/2023 01:39 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
009	0874_SW119_230422		22/04/2023 10:25 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		



CHAIN OF CUSTODY

COC#: 51257 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Sediments SEDIMENT	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SD119_230422		22/04/2023 10:27 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
011	0874_SW114_230422		22/04/2023 11:08 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
012	0874_SD114_230422		22/04/2023 11:11 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
013	0874_QC112_230422		22/04/2023 11:09 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
014	0874_QC113_230422		22/04/2023 11:10 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
015	0874_SW208_230422		22/04/2023 11:51 AM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
016	0874_SD208_230422		22/04/2023 11:52 AM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			
017	0874_SW210_230422		22/04/2023 12:20 PM	WATER	ALS: 4 Non ALS: 0	No		Partial 1/4		
018	0874_SD210_230422		22/04/2023 12:20 PM	SOIL	ALS: 1 Non ALS: 0	No	Partial 1/4			



CHAIN OF CUSTODY

COC#: 51257 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW001_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SD001_230420	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
003	0874_SW019_230421	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SD019_230421	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
005	0874_SW126_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SD126_230420	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
007	0874_SW013_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SD013_230420	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
009	0874_SW119_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SD119_230422	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
011	0874_SW114_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SD114_230422	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
013	0874_QC112_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_QC113_230422	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
015	0874_SW208_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)



CHAIN OF CUSTODY

COC#: 51257 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

016	0874_SD208_230422	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)
017	0874_SW210_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SD210_230422	Sediments SEDIMENT	SOIL	- EP231X (solids) PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51257 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU0001

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW001_230420	HDPE (no PTFE)	20 mL	00350821038060	Grey	No	
001	0874_SW001_230420	HDPE (no PTFE)	20 mL	00350821037922	Grey	No	
001	0874_SW001_230420	HDPE (no PTFE)	20 mL	00350821038059	Grey	No	
001	0874_SW001_230420	HDPE (no PTFE)	20 mL	00350821037919	Grey	No	
002	0874_SD001_230420	HDPE Soil Jar	200 mL	00621019058753	Grey	No	
003	0874_SW019_230421	HDPE (no PTFE)	20 mL	00350822061227	Grey	No	
003	0874_SW019_230421	HDPE (no PTFE)	20 mL	00350822061542	Grey	No	
003	0874_SW019_230421	HDPE (no PTFE)	20 mL	00350822061162	Grey	No	
003	0874_SW019_230421	HDPE (no PTFE)	20 mL	00350822061085	Grey	No	
004	0874_SD019_230421	HDPE Soil Jar	200 mL	00620322093562	Grey	No	
005	0874_SW126_230420	HDPE (no PTFE)	20 mL	00350822061043	Grey	No	
005	0874_SW126_230420	HDPE (no PTFE)	20 mL	00350822061061	Grey	No	
005	0874_SW126_230420	HDPE (no PTFE)	20 mL	00350822061464	Grey	No	
005	0874_SW126_230420	HDPE (no PTFE)	20 mL	00350822061059	Grey	No	
006	0874_SD126_230420	HDPE Soil Jar	200 mL	00620322093498	Grey	No	
007	0874_SW013_230420	HDPE (no PTFE)	20 mL	00350822061281	Grey	No	
007	0874_SW013_230420	HDPE (no PTFE)	20 mL	00350822061046	Grey	No	
007	0874_SW013_230420	HDPE (no PTFE)	20 mL	00350822061109	Grey	No	
007	0874_SW013_230420	HDPE (no PTFE)	20 mL	00350822061507	Grey	No	
008	0874_SD013_230420	HDPE Soil Jar	200 mL	00620322093473	Grey	No	
009	0874_SW119_230422	HDPE (no PTFE)	20 mL	00350822061124	Grey	No	
009	0874_SW119_230422	HDPE (no PTFE)	20 mL	00350822061270	Grey	No	
009	0874_SW119_230422	HDPE (no PTFE)	20 mL	00350822061499	Grey	No	
009	0874_SW119_230422	HDPE (no PTFE)	20 mL	00350822061425	Grey	No	
010	0874_SD119_230422	HDPE Soil Jar	200 mL	00620719044263	Grey	No	
011	0874_SW114_230422	HDPE (no PTFE)	20 mL	00350822061136	Grey	No	



CHAIN OF CUSTODY

COC#: 51257 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

011	0874_SW114_230422	HDPE (no PTFE)	20 mL	00350822061462	Grey	No	
011	0874_SW114_230422	HDPE (no PTFE)	20 mL	00350822061071	Grey	No	
011	0874_SW114_230422	HDPE (no PTFE)	20 mL	00350822061443	Grey	No	
012	0874_SD114_230422	HDPE Soil Jar	200 mL	00621019120182	Grey	No	
013	0874_QC112_230422	HDPE (no PTFE)	20 mL	00350822061064	Grey	No	
013	0874_QC112_230422	HDPE (no PTFE)	20 mL	00350822061115	Grey	No	
013	0874_QC112_230422	HDPE (no PTFE)	20 mL	00350822061437	Grey	No	
013	0874_QC112_230422	HDPE (no PTFE)	20 mL	00350822061176	Grey	No	
014	0874_QC113_230422	HDPE Soil Jar	200 mL	00621019120220	Grey	No	
015	0874_SW208_230422	HDPE (no PTFE)	20 mL	00350822004847	Grey	No	
015	0874_SW208_230422	HDPE (no PTFE)	20 mL	00350822004971	Grey	No	
015	0874_SW208_230422	HDPE (no PTFE)	20 mL	00350822004845	Grey	No	
015	0874_SW208_230422	HDPE (no PTFE)	20 mL	00350822004869	Grey	No	
016	0874_SD208_230422	HDPE Soil Jar	200 mL	00621122070263	Grey	No	
017	0874_SW210_230422	HDPE (no PTFE)	20 mL	00350822005040	Grey	No	
017	0874_SW210_230422	HDPE (no PTFE)	20 mL	00350822004968	Grey	No	
017	0874_SW210_230422	HDPE (no PTFE)	20 mL	00350822004997	Grey	No	
017	0874_SW210_230422	HDPE (no PTFE)	20 mL	00350822004866	Grey	No	
018	0874_SD210_230422	HDPE Soil Jar	200 mL	00621122057031	Grey	No	

Total Bottle Count: ALS: 45, Non ALS: 0





Environmental Division
Townsville
Work Order Reference
ET2302220



Telephone: + 61 7 4773 0000

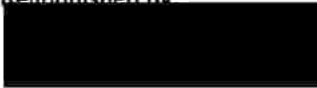


Custody Document for Submissions via ALS Compass App

Project: 60612487_2.1 Client: AECOM Project Manager: 

ALS Compass COC Reference: 51310 # Samples: 138 Sampler: 

Turnaround Requirements: 51226 Standard 51432 10 days Urgent 51257 51302

Special Instructions:	ALS Use Only		
	Custody seal intact?	YES	NO N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO N/A
	Random sample temperature on receipt?		°C

Custody:			
Relinquished by: 	Received by: 	Relinquished by:	Received by: 
Date / Time: <u>26/4/23 1735</u>	Date / Time: <u>26/4/23 1735</u>	Date / Time:	Date / Time: <u>28/4/23 9:04</u>

**CHAIN OF CUSTODY**

COC#: 51226 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW127_230420		20/04/2023 09:35 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
002	0874_SW129_230420		20/04/2023 10:01 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
003	0874_SW014_230420		20/04/2023 10:58 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
004	0874_SW112_230420		20/04/2023 10:33 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
005	0874_SW017_230420		20/04/2023 11:15 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
006	0874_SW121_230420		20/04/2023 02:37 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
007	0874_SW010_230420		20/04/2023 11:33 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
008	0874_SW132_230420		20/04/2023 11:47 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
009	0874_SW123_230420		20/04/2023 12:48 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard Info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW125_230420		20/04/2023 01:01 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
011	0874_SW016_230420		20/04/2023 01:48 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
012	0874_SW131_230420		20/04/2023 04:29 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
013	0874_SW102_230420		20/04/2023 01:19 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
014	0874_SW117_230420		20/04/2023 02:50 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
015	0874_SW118_230420		20/04/2023 03:02 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
016	0874_SW115_230420		20/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
017	0874_SW116_230420		20/04/2023 03:39 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
018	0874_SW109_230420		20/04/2023 03:49 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		



CHAIN OF CUSTODY

COC#: 51226 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW108_230420		20/04/2023 04:00 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
020	0874_QC106_230420		20/04/2023 12:50 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
021	0874_QC107_230420		20/04/2023 03:03 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
022	0874_QC303_230420		20/04/2023 05:04 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
023	0874_SW129_230422		22/04/2023 09:38 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
024	0874_SW121_230422		22/04/2023 10:09 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
025	0874_SW117_230422		22/04/2023 10:41 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
026	0874_SW118_230422		22/04/2023 10:47 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
027	0874_SW115_230422		22/04/2023 10:51 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51226 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Waters WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW116_230422		22/04/2023 11:21 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
029	0874_SW109_230422		22/04/2023 11:33 AM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
030	0874_SW108_230422		22/04/2023 12:09 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
031	0874_QC305_230422		22/04/2023 12:24 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		
032	0874_QC114_230422		22/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	Partial 1/4		

**CHAIN OF CUSTODY**

COC#: 51226 ALS Laboratory: ET Townsville

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

RELINQUISHED BY:

DATE TIME:

RECEIVED BY:

DATE TIME:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	PARTIAL ANALYSIS GROUP NAME	MATRIX	SELECTED ANALYSIS NAME
001	0874_SW127_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
002	0874_SW129_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
003	0874_SW014_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
004	0874_SW112_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
005	0874_SW017_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
006	0874_SW121_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
007	0874_SW010_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
008	0874_SW132_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
009	0874_SW123_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
010	0874_SW125_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
011	0874_SW016_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
012	0874_SW131_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
013	0874_SW102_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
014	0874_SW117_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
015	0874_SW118_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

016	0874_SW115_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
017	0874_SW116_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
018	0874_SW109_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
019	0874_SW108_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
020	0874_QC106_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
021	0874_QC107_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
022	0874_QC303_230420	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
023	0874_SW129_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
024	0874_SW121_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
025	0874_SW117_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
026	0874_SW118_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
027	0874_SW115_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
028	0874_SW116_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
029	0874_SW109_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
030	0874_SW108_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)
031	0874_QC305_230422	Waters WATER	WATER	- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51226 ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

032

0874_QC114_230422

Waters WATER

WATER

- EP231X PFAS - Full Suite (28 analytes)

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_230420	HDPE (no PTFE)	20 mL	00350821037745	Grey	No	
001	0874_SW127_230420	HDPE (no PTFE)	20 mL	00350821037771	Grey	No	
001	0874_SW127_230420	HDPE (no PTFE)	20 mL	00350821038182	Grey	No	
001	0874_SW127_230420	HDPE (no PTFE)	20 mL	00350821037825	Grey	No	
002	0874_SW129_230420	HDPE (no PTFE)	20 mL	00350821037878	Grey	No	
002	0874_SW129_230420	HDPE (no PTFE)	20 mL	00350821037854	Grey	No	
002	0874_SW129_230420	HDPE (no PTFE)	20 mL	00350821037802	Grey	No	
002	0874_SW129_230420	HDPE (no PTFE)	20 mL	00350821037886	Grey	No	
003	0874_SW014_230420	HDPE (no PTFE)	20 mL	00350821037827	Grey	No	
003	0874_SW014_230420	HDPE (no PTFE)	20 mL	00350821038237	Grey	No	
003	0874_SW014_230420	HDPE (no PTFE)	20 mL	00350821038288	Grey	No	
003	0874_SW014_230420	HDPE (no PTFE)	20 mL	00350821038260	Grey	No	
004	0874_SW112_230420	HDPE (no PTFE)	20 mL	00350821038146	Grey	No	
004	0874_SW112_230420	HDPE (no PTFE)	20 mL	00350821037958	Grey	No	
004	0874_SW112_230420	HDPE (no PTFE)	20 mL	00350821038176	Grey	No	
004	0874_SW112_230420	HDPE (no PTFE)	20 mL	00350821038018	Grey	No	
005	0874_SW017_230420	HDPE (no PTFE)	20 mL	00350821037728	Grey	No	
005	0874_SW017_230420	HDPE (no PTFE)	20 mL	00350821038067	Grey	No	
005	0874_SW017_230420	HDPE (no PTFE)	20 mL	00350821037798	Grey	No	
005	0874_SW017_230420	HDPE (no PTFE)	20 mL	00350821037998	Grey	No	
006	0874_SW121_230420	HDPE (no PTFE)	20 mL	00350822061058	Grey	No	
006	0874_SW121_230420	HDPE (no PTFE)	20 mL	00350822061591	Grey	No	
006	0874_SW121_230420	HDPE (no PTFE)	20 mL	00350822061218	Grey	No	
006	0874_SW121_230420	HDPE (no PTFE)	20 mL	00350822061381	Grey	No	
007	0874_SW010_230420	HDPE (no PTFE)	20 mL	00350821037755	Grey	No	
007	0874_SW010_230420	HDPE (no PTFE)	20 mL	00350821038086	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

007	0874_SW010_230420	HDPE (no PTFE)	20 mL	00350821037787	Grey	No	
007	0874_SW010_230420	HDPE (no PTFE)	20 mL	00350821037793	Grey	No	
008	0874_SW132_230420	HDPE (no PTFE)	20 mL	00350821037858	Grey	No	
008	0874_SW132_230420	HDPE (no PTFE)	20 mL	00350821037899	Grey	No	
008	0874_SW132_230420	HDPE (no PTFE)	20 mL	00350821037901	Grey	No	
008	0874_SW132_230420	HDPE (no PTFE)	20 mL	00350821038032	Grey	No	
009	0874_SW123_230420	HDPE (no PTFE)	20 mL	00350822061583	Grey	No	
009	0874_SW123_230420	HDPE (no PTFE)	20 mL	00350822061188	Grey	No	
009	0874_SW123_230420	HDPE (no PTFE)	20 mL	00350822061116	Grey	No	
009	0874_SW123_230420	HDPE (no PTFE)	20 mL	00350822061554	Grey	No	
010	0874_SW125_230420	HDPE (no PTFE)	20 mL	00350822061191	Grey	No	
010	0874_SW125_230420	HDPE (no PTFE)	20 mL	00350822061327	Grey	No	
010	0874_SW125_230420	HDPE (no PTFE)	20 mL	00350822061541	Grey	No	
010	0874_SW125_230420	HDPE (no PTFE)	20 mL	00350822061011	Grey	No	
011	0874_SW016_230420	HDPE (no PTFE)	20 mL	00350822061214	Grey	No	
011	0874_SW016_230420	HDPE (no PTFE)	20 mL	00350822061263	Grey	No	
011	0874_SW016_230420	HDPE (no PTFE)	20 mL	00350822061246	Grey	No	
011	0874_SW016_230420	HDPE (no PTFE)	20 mL	00350822061320	Grey	No	
012	0874_SW131_230420	HDPE (no PTFE)	20 mL	00350822061187	Grey	No	
012	0874_SW131_230420	HDPE (no PTFE)	20 mL	00350822061168	Grey	No	
012	0874_SW131_230420	HDPE (no PTFE)	20 mL	00350822061489	Grey	No	
012	0874_SW131_230420	HDPE (no PTFE)	20 mL	00350822061606	Grey	No	
013	0874_SW102_230420	HDPE (no PTFE)	20 mL	00350822061055	Grey	No	
013	0874_SW102_230420	HDPE (no PTFE)	20 mL	00350822061596	Grey	No	
013	0874_SW102_230420	HDPE (no PTFE)	20 mL	00350822061456	Grey	No	
013	0874_SW102_230420	HDPE (no PTFE)	20 mL	00350822061142	Grey	No	
014	0874_SW117_230420	HDPE (no PTFE)	20 mL	00350822061608	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014	0874_SW117_230420	HDPE (no PTFE)	20 mL	00350822061181	Grey	No	
014	0874_SW117_230420	HDPE (no PTFE)	20 mL	00350822061475	Grey	No	
014	0874_SW117_230420	HDPE (no PTFE)	20 mL	00350822061238	Grey	No	
015	0874_SW118_230420	HDPE (no PTFE)	20 mL	00350822061133	Grey	No	
015	0874_SW118_230420	HDPE (no PTFE)	20 mL	00350822061374	Grey	No	
015	0874_SW118_230420	HDPE (no PTFE)	20 mL	00350822061272	Grey	No	
015	0874_SW118_230420	HDPE (no PTFE)	20 mL	00350822061275	Grey	No	
016	0874_SW115_230420	HDPE (no PTFE)	20 mL	00350822061049	Grey	No	
016	0874_SW115_230420	HDPE (no PTFE)	20 mL	00350822061175	Grey	No	
016	0874_SW115_230420	HDPE (no PTFE)	20 mL	00350822061440	Grey	No	
016	0874_SW115_230420	HDPE (no PTFE)	20 mL	00350822061215	Grey	No	
017	0874_SW116_230420	HDPE (no PTFE)	20 mL	00350822061140	Grey	No	
017	0874_SW116_230420	HDPE (no PTFE)	20 mL	00350822061359	Grey	No	
017	0874_SW116_230420	HDPE (no PTFE)	20 mL	00350822061348	Grey	No	
017	0874_SW116_230420	HDPE (no PTFE)	20 mL	00350822061397	Grey	No	
018	0874_SW109_230420	HDPE (no PTFE)	20 mL	00350822061052	Grey	No	
018	0874_SW109_230420	HDPE (no PTFE)	20 mL	00350822061585	Grey	No	
018	0874_SW109_230420	HDPE (no PTFE)	20 mL	00350822061568	Grey	No	
018	0874_SW109_230420	HDPE (no PTFE)	20 mL	00350822061356	Grey	No	
019	0874_SW108_230420	HDPE (no PTFE)	20 mL	00350822061050	Grey	No	
019	0874_SW108_230420	HDPE (no PTFE)	20 mL	00350822061111	Grey	No	
019	0874_SW108_230420	HDPE (no PTFE)	20 mL	00350822061432	Grey	No	
019	0874_SW108_230420	HDPE (no PTFE)	20 mL	00350822061083	Grey	No	
020	0874_QC106_230420	HDPE (no PTFE)	20 mL	00350822061157	Grey	No	
020	0874_QC106_230420	HDPE (no PTFE)	20 mL	00350822061461	Grey	No	
020	0874_QC106_230420	HDPE (no PTFE)	20 mL	00350822061048	Grey	No	
020	0874_QC106_230420	HDPE (no PTFE)	20 mL	00350822061036	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 v2 - Compass / ET2021AECOMAU000
1**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

021	0874_QC107_230420	HDPE (no PTFE)	20 mL	00350822061125	Grey	No	
021	0874_QC107_230420	HDPE (no PTFE)	20 mL	00350822061017	Grey	No	
021	0874_QC107_230420	HDPE (no PTFE)	20 mL	00350822061526	Grey	No	
021	0874_QC107_230420	HDPE (no PTFE)	20 mL	00350822061196	Grey	No	
022	0874_QC303_230420	HDPE (no PTFE)	20 mL	00350822061430	Grey	No	
022	0874_QC303_230420	HDPE (no PTFE)	20 mL	00350822061416	Grey	No	
022	0874_QC303_230420	HDPE (no PTFE)	20 mL	00350822061519	Grey	No	
022	0874_QC303_230420	HDPE (no PTFE)	20 mL	00350822061092	Grey	No	
023	0874_SW129_230422	HDPE (no PTFE)	20 mL	00350822061087	Grey	No	
023	0874_SW129_230422	HDPE (no PTFE)	20 mL	00350822061544	Grey	No	
023	0874_SW129_230422	HDPE (no PTFE)	20 mL	00350822061400	Grey	No	
023	0874_SW129_230422	HDPE (no PTFE)	20 mL	00350822061323	Grey	No	
024	0874_SW121_230422	HDPE (no PTFE)	20 mL	00350822061536	Grey	No	
024	0874_SW121_230422	HDPE (no PTFE)	20 mL	00350822061234	Grey	No	
024	0874_SW121_230422	HDPE (no PTFE)	20 mL	00350822061516	Grey	No	
024	0874_SW121_230422	HDPE (no PTFE)	20 mL	00350822061393	Grey	No	
025	0874_SW117_230422	HDPE (no PTFE)	20 mL	00350822061529	Grey	No	
025	0874_SW117_230422	HDPE (no PTFE)	20 mL	00350822061478	Grey	No	
025	0874_SW117_230422	HDPE (no PTFE)	20 mL	00350822061249	Grey	No	
025	0874_SW117_230422	HDPE (no PTFE)	20 mL	00350822061463	Grey	No	
026	0874_SW118_230422	HDPE (no PTFE)	20 mL	00350822061597	Grey	No	
026	0874_SW118_230422	HDPE (no PTFE)	20 mL	00350822061222	Grey	No	
026	0874_SW118_230422	HDPE (no PTFE)	20 mL	00350822061105	Grey	No	
026	0874_SW118_230422	HDPE (no PTFE)	20 mL	00350822061491	Grey	No	
027	0874_SW115_230422	HDPE (no PTFE)	20 mL	00350822061024	Grey	No	
027	0874_SW115_230422	HDPE (no PTFE)	20 mL	00350822061301	Grey	No	
027	0874_SW115_230422	HDPE (no PTFE)	20 mL	00350822061550	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51226

ALS Laboratory: ET Townsville

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23 (v2)

SITE: QLD_0874 SW

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

SAMPLER MOBILE:

QUOTE NO: TV/007/21 V2 - Compass

/ ET2021AECOMAU000

1

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

027	0874_SW115_230422	HDPE (no PTFE)	20 mL	00350822061347	Grey	No	
028	0874_SW116_230422	HDPE (no PTFE)	20 mL	00350822061565	Grey	No	
028	0874_SW116_230422	HDPE (no PTFE)	20 mL	00350822061031	Grey	No	
028	0874_SW116_230422	HDPE (no PTFE)	20 mL	00350822061076	Grey	No	
028	0874_SW116_230422	HDPE (no PTFE)	20 mL	00350822061216	Grey	No	
029	0874_SW109_230422	HDPE (no PTFE)	20 mL	00350822061032	Grey	No	
029	0874_SW109_230422	HDPE (no PTFE)	20 mL	00350822061495	Grey	No	
029	0874_SW109_230422	HDPE (no PTFE)	20 mL	00350822061160	Grey	No	
029	0874_SW109_230422	HDPE (no PTFE)	20 mL	00350822061365	Grey	No	
030	0874_SW108_230422	HDPE (no PTFE)	20 mL	00350822004879	Grey	No	
030	0874_SW108_230422	HDPE (no PTFE)	20 mL	00350822004988	Grey	No	
030	0874_SW108_230422	HDPE (no PTFE)	20 mL	00350822004823	Grey	No	
030	0874_SW108_230422	HDPE (no PTFE)	20 mL	00350822004822	Grey	No	
031	0874_QC305_230422	HDPE (no PTFE)	20 mL	00350822061582	Grey	No	
031	0874_QC305_230422	HDPE (no PTFE)	20 mL	00350822061484	Grey	No	
031	0874_QC305_230422	HDPE (no PTFE)	20 mL	00350822061212	Grey	No	
031	0874_QC305_230422	HDPE (no PTFE)	20 mL	00350822061528	Grey	No	
032	0874_QC114_230422	HDPE (no PTFE)	20 mL	00350822028782	Grey	No	
032	0874_QC114_230422	HDPE (no PTFE)	20 mL	00350822028760	Grey	No	
032	0874_QC114_230422	HDPE (no PTFE)	20 mL	00350822005029	Grey	No	
032	0874_QC114_230422	HDPE (no PTFE)	20 mL	00350822004883	Grey	No	

Total Bottle Count: ALS: 128, Non ALS: 0



Environmental Division
 Brisbane
 Work Order Reference
EB2311697



Telephone : + 61-7-3213 7222

Custody Document for Submissions via ALS Compass App

Project: 60612487-2.1 Client: AECOM Project Manager: _____
 Phone: _____

ALS Compass COC Reference: 51080 # Samples: 58 Sampler: _____
 Phone: _____

Turnaround Requirements: Standard 10 days Urgent



Special Instructions: <u>Please change to Quote TV/007/21 V2.</u>	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?	°C		

Custody:

Relinquished by: 	Received by: 	Relinquished by: 	Received by:
Date / Time: <u>19/4/23 1720</u>	Date / Time: <u>19/4/23 1720</u>	Date / Time: 	Date / Time: <u>21/4/23 1700</u>

**CHAIN OF CUSTODY**

COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

REC

DATE TIME:

DATE TIME:

DATE TIME:

DATE

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH

QUOTE NO: ME/624/21 - AMPOL

/ EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

[Redacted] 1/4/23
SPC**SAMPLE DETAILS****ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_SW127_230417		17/04/2023 01:05 PM	WATER	ALS: 3 Non ALS: 0	No	X		
002	0874_SW014_230417		17/04/2023 02:32 PM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0874_SW112_230417		17/04/2023 02:06 PM	WATER	ALS: 4 Non ALS: 0	No	X		
004	0874_SW010_230417		17/04/2023 03:07 PM	WATER	ALS: 4 Non ALS: 0	No	X		
005	0874_QC100_230417		17/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	X		
006	0874_SW132_230417		17/04/2023 03:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		
007	0874_SW123_230417		17/04/2023 03:43 PM	WATER	ALS: 4 Non ALS: 0	No	X		
008	0874_SW125_230417		17/04/2023 04:01 PM	WATER	ALS: 4 Non ALS: 0	No	X		
009	0874_SW016_230417		17/04/2023 04:16 PM	WATER	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

ALS COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

[Redacted] 8:00
21/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [Redacted]

PRIMARY SAMPLER: [Redacted]

EMAIL REPORTS TO: [Redacted]

EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH: [Redacted]

QUOTE NO: ME/624/21 - [Redacted] / EM2021AECOMAU001
5**LABORATORY USE ONLY (Circle)**

Custody Seal Intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SW131_230417		17/04/2023 04:27 PM	WATER	ALS: 4 Non ALS: 0	No	X		
011	0874_SW102_230417		17/04/2023 04:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		
012	0874_SW017_230417		17/04/2023 05:13 PM	WATER	ALS: 4 Non ALS: 0	No	X		
013	0874_QC101_230417		17/04/2023 05:14 PM	WATER	ALS: 4 Non ALS: 0	No	X		
014	0874_QC300_230417		17/04/2023 05:20 PM	WATER	ALS: 4 Non ALS: 0	No	X		
015	0874_SW017_230418		18/04/2023 02:11 PM	WATER	ALS: 4 Non ALS: 0	No	X		
016	0874_SW127_230418		18/04/2023 01:08 PM	WATER	ALS: 4 Non ALS: 0	No	X		
017	0874_SW129_230418		18/04/2023 11:32 AM	WATER	ALS: 4 Non ALS: 0	No	X		
018	0874_SW014_230418		18/04/2023 01:59 PM	WATER	ALS: 4 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COC#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

DATE TIME: [Redacted]

21/4/23
8:00

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [Redacted]

PRIMARY SAMPLER: [Redacted]

EMAIL REPORTS TO: [Redacted]

EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [Redacted]

QUOTE NO: ME/624/21 / EM2021AECOMAU0015

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW010_230418		18/04/2023 02:28 PM	WATER	ALS: 4 Non ALS: 0	No	X		
020	0874_SW121_230418		18/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	X		
021	0874_SW132_230418		18/04/2023 02:40 PM	WATER	ALS: 4 Non ALS: 0	No	X		
022	0874_SW123_230418		18/04/2023 02:54 PM	WATER	ALS: 4 Non ALS: 0	No	X		
023	0874_SW125_230418		18/04/2023 03:09 PM	WATER	ALS: 4 Non ALS: 0	No	X		
024	0874_SW112_230418		18/04/2023 01:33 PM	WATER	ALS: 4 Non ALS: 0	No	X		
025	0874_SW016_230418		18/04/2023 03:21 PM	WATER	ALS: 4 Non ALS: 0	No	X		
026	0874_SW131_230418		18/04/2023 03:33 PM	WATER	ALS: 4 Non ALS: 0	No	X		
027	0874_SW102_230418		18/04/2023 03:51 PM	WATER	ALS: 4 Non ALS: 0	No	X		



CHAIN OF CUSTODY

COCH#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

Y:00

21/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS: 5 Days

Biohazard Info:

CONTACT PH:

QUOTE NO: ME2024/21

EM2021AECOMAU001

LABORATORY USE ONLY (Circle)

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		
							EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
028	0874_SW117_230418		18/04/2023 09:33 AM	WATER	ALS: 4 Non ALS: 0	No	X		
029	0874_SW118_230418		18/04/2023 09:56 AM	WATER	ALS: 4 Non ALS: 0	No	X		
030	0874_SW115_230418		18/04/2023 10:12 AM	WATER	ALS: 4 Non ALS: 0	No	X		
031	0874_SW116_230418		18/04/2023 10:30 AM	WATER	ALS: 4 Non ALS: 0	No	X		
032	0874_SW109_230418		18/04/2023 10:50 AM	WATER	ALS: 4 Non ALS: 0	No	X		
033	0874_SW108_230418		18/04/2023 11:02 AM	WATER	ALS: 4 Non ALS: 0	No	X		
034	0874_QC102_230418		18/04/2023 01:07 PM	WATER	ALS: 4 Non ALS: 0	No	X		
035	0874_QC103_230418		18/04/2023 03:35 PM	WATER	ALS: 4 Non ALS: 0	No	X		
036	0874_QC301_230418		18/04/2023 03:56 PM	WATER	ALS: 4 Non ALS: 0	No	X		

Wednesday, April 19, 2023

6:44:43 AM

**CHAIN OF CUSTODY**

COC#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

R

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

21/4/23 @ 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: ME/624/21 - / EM2021AECOMAU001
5

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
037	0874_SW129_230419		19/04/2023 10:05 AM	WATER	ALS: 4 Non ALS: 0	No	X		
038	0874_SW127_230419		19/04/2023 09:48 AM	WATER	ALS: 4 Non ALS: 0	No	X		
039	0874_SW017_230419		19/04/2023 11:28 AM	WATER	ALS: 4 Non ALS: 0	No	X		
040	0874_SW014_230419		19/04/2023 11:06 AM	WATER	ALS: 4 Non ALS: 0	No	X		
041	0874_SW010_230419		19/04/2023 12:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
042	0874_SW123_230419		19/04/2023 12:35 PM	WATER	ALS: 4 Non ALS: 0	No	X		
043	0874_SW121_230419		19/04/2023 11:44 AM	WATER	ALS: 4 Non ALS: 0	No	X		
044	0874_SW132_230419		19/04/2023 12:14 PM	WATER	ALS: 4 Non ALS: 0	No	X		
045	0874_SW125_230419		19/04/2023 12:47 PM	WATER	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

[Redacted] @ 8.00
21/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFAASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [Redacted]

PRIMARY SAMPLER: [Redacted]

EMAIL REPORTS TO: [Redacted]

EMAIL INVOICES TO: [Redacted]

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH: [Redacted]

QUOTE NO: ME/624/21 - AMPOL / EM2021AECOMAU001
5**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
046	0874_SW112_230419		19/04/2023 10:39 AM	WATER	ALS: 4 Non ALS: 0	No	X		
047	0874_SW016_230419		19/04/2023 01:01 PM	WATER	ALS: 4 Non ALS: 0	No	X		
048	0874_SW131_230419		19/04/2023 01:12 PM	WATER	ALS: 4 Non ALS: 0	No	X		
049	0874_SW102_230419		19/04/2023 01:30 PM	WATER	ALS: 4 Non ALS: 0	No	X		
050	0874_SW117_230419		19/04/2023 02:39 PM	WATER	ALS: 4 Non ALS: 0	No	X		
051	0874_SW118_230419		19/04/2023 02:51 PM	WATER	ALS: 4 Non ALS: 0	No	X		
052	0874_SW115_230419		19/04/2023 03:05 PM	WATER	ALS: 4 Non ALS: 0	No	X		
053	0874_SW116_230419		19/04/2023 03:20 PM	WATER	ALS: 4 Non ALS: 0	No	X		
054	0874_SW109_230419		19/04/2023 03:32 PM	WATER	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

21/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS: 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

QUOTE NO: ME/624/21 - [REDACTED] / EM2021AECOMAU001
5**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

8.00

SAMPLE DETAILS**ANALYSIS REQUIRED**

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
055	0874_SW108_230419		19/04/2023 03:43 PM	WATER	ALS: 4 Non ALS: 0	No	X		
056	0874_QC302_230419		19/04/2023 03:47 PM	WATER	ALS: 4 Non ALS: 0	No	X		
057	0874_QC104_230419		19/04/2023 12:37 PM	WATER	ALS: 4 Non ALS: 0	No	X		
058	0874_QC105_230419		19/04/2023 03:06 PM	WATER	ALS: 4 Non ALS: 0	No	X		

**CHAIN OF CUSTODY**

COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

21/4/23 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21

/ EM2021AECOMAU001
5**LABORATORY USE ONLY (Circle)**

Custody Seal intact?

Yes No N/A

Free ice / frozen ice bricks present upon receipt?

Yes No N/A

Random Sample Temperature on Receipt:

°C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_SW127_230417	HDPE (no PTFE)	20 mL	00350821037816	Grey	No	
001	0874_SW127_230417	HDPE (no PTFE)	20 mL	00350522022181	Grey	No	
001	0874_SW127_230417	HDPE (no PTFE)	20 mL	00350522021937	Grey	No	
002	0874_SW014_230417	HDPE (no PTFE)	20 mL	00350522021967	Grey	No	
002	0874_SW014_230417	HDPE (no PTFE)	20 mL	00350522022081	Grey	No	
002	0874_SW014_230417	HDPE (no PTFE)	20 mL	00350522022060	Grey	No	
002	0874_SW014_230417	HDPE (no PTFE)	20 mL	00350522022022	Grey	No	
003	0874_SW112_230417	HDPE (no PTFE)	20 mL	00350522022053	Grey	No	
003	0874_SW112_230417	HDPE (no PTFE)	20 mL	00350522022005	Grey	No	
003	0874_SW112_230417	HDPE (no PTFE)	20 mL	00350522022220	Grey	No	
003	0874_SW112_230417	HDPE (no PTFE)	20 mL	00350522022066	Grey	No	
004	0874_SW010_230417	HDPE (no PTFE)	20 mL	00350522022119	Grey	No	
004	0874_SW010_230417	HDPE (no PTFE)	20 mL	00350522022221	Grey	No	
004	0874_SW010_230417	HDPE (no PTFE)	20 mL	00350522052811	Grey	No	
004	0874_SW010_230417	HDPE (no PTFE)	20 mL	00350522052874	Grey	No	
005	0874_QC100_230417	HDPE (no PTFE)	20 mL	00350821037945	Grey	No	
005	0874_QC100_230417	HDPE (no PTFE)	20 mL	00350821038094	Grey	No	
005	0874_QC100_230417	HDPE (no PTFE)	20 mL	00350821037791	Grey	No	
005	0874_QC100_230417	HDPE (no PTFE)	20 mL	00350821038279	Grey	No	
006	0874_SW132_230417	HDPE (no PTFE)	20 mL	00350522021957	Grey	No	
006	0874_SW132_230417	HDPE (no PTFE)	20 mL	00350522022016	Grey	No	
006	0874_SW132_230417	HDPE (no PTFE)	20 mL	00350522022165	Grey	No	
006	0874_SW132_230417	HDPE (no PTFE)	20 mL	00350522022026	Grey	No	
007	0874_SW123_230417	HDPE (no PTFE)	20 mL	00350522022199	Grey	No	
007	0874_SW123_230417	HDPE (no PTFE)	20 mL	00350522022155	Grey	No	
007	0874_SW123_230417	HDPE (no PTFE)	20 mL	00350522022079	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RE: [REDACTED] 8:00
 DATE TIME: 21/4/23

DATE TIME:

DATE TIME:

DATE TIME:

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH: [REDACTED]

QUOTE NO: ME/624/21 [REDACTED] / EM2021AECOMAU001
 5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

007	0874_SW123_230417	HDPE (no PTFE)	20 mL	00350522022109	Grey	No	
008	0874_SW125_230417	HDPE (no PTFE)	20 mL	00350522022129	Grey	No	
008	0874_SW125_230417	HDPE (no PTFE)	20 mL	00350522022192	Grey	No	
008	0874_SW125_230417	HDPE (no PTFE)	20 mL	00350522022149	Grey	No	
008	0874_SW125_230417	HDPE (no PTFE)	20 mL	00350522021987	Grey	No	
009	0874_SW016_230417	HDPE (no PTFE)	20 mL	00350522021956	Grey	No	
009	0874_SW016_230417	HDPE (no PTFE)	20 mL	00350522022216	Grey	No	
009	0874_SW016_230417	HDPE (no PTFE)	20 mL	00350522021954	Grey	No	
009	0874_SW016_230417	HDPE (no PTFE)	20 mL	00350522022217	Grey	No	
010	0874_SW131_230417	HDPE (no PTFE)	20 mL	00350522022071	Grey	No	
010	0874_SW131_230417	HDPE (no PTFE)	20 mL	00350522022159	Grey	No	
010	0874_SW131_230417	HDPE (no PTFE)	20 mL	00350522022168	Grey	No	
010	0874_SW131_230417	HDPE (no PTFE)	20 mL	00350522022144	Grey	No	
011	0874_SW102_230417	HDPE (no PTFE)	20 mL	00350821011955	Grey	No	
011	0874_SW102_230417	HDPE (no PTFE)	20 mL	00350522022121	Grey	No	
011	0874_SW102_230417	HDPE (no PTFE)	20 mL	00350522022214	Grey	No	
011	0874_SW102_230417	HDPE (no PTFE)	20 mL	00350821011992	Grey	No	
012	0874_SW017_230417	HDPE (no PTFE)	20 mL	00350821011929	Grey	No	
012	0874_SW017_230417	HDPE (no PTFE)	20 mL	00350821031506	Grey	No	
012	0874_SW017_230417	HDPE (no PTFE)	20 mL	00350821031689	Grey	No	
012	0874_SW017_230417	HDPE (no PTFE)	20 mL	00350821011987	Grey	No	
013	0874_QC101_230417	HDPE (no PTFE)	20 mL	00352010065425	Grey	No	
013	0874_QC101_230417	HDPE (no PTFE)	20 mL	00350821031593	Grey	No	
013	0874_QC101_230417	HDPE (no PTFE)	20 mL	00350821031553	Grey	No	
013	0874_QC101_230417	HDPE (no PTFE)	20 mL	00352010065527	Grey	No	
014	0874_QC300_230417	HDPE (no PTFE)	20 mL	00350821031609	Grey	No	
014	0874_QC300_230417	HDPE (no PTFE)	20 mL	00350821031218	Grey	No	

**CHAIN OF CUSTODY**

COCH#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

21/4/23 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

CONTACT PH:

QUOTE NO: ME/624/21- / EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

• 014	0874_QC300_230417	HDPE (no PTFE)	20 mL	00350821011893	Grey	No	
014	0874_QC300_230417	HDPE (no PTFE)	20 mL	00350821031616	Grey	No	
015	0874_SW017_230418	HDPE (no PTFE)	20 mL	00350522022100	Grey	No	
015	0874_SW017_230418	HDPE (no PTFE)	20 mL	00350522022041	Grey	No	
015	0874_SW017_230418	HDPE (no PTFE)	20 mL	00350522022186	Grey	No	
015	0874_SW017_230418	HDPE (no PTFE)	20 mL	00350522021988	Grey	No	
016	0874_SW127_230418	HDPE (no PTFE)	20 mL	00350522022054	Grey	No	
016	0874_SW127_230418	HDPE (no PTFE)	20 mL	00350522021943	Grey	No	
016	0874_SW127_230418	HDPE (no PTFE)	20 mL	00350522021999	Grey	No	
016	0874_SW127_230418	HDPE (no PTFE)	20 mL	00350522022102	Grey	No	
017	0874_SW129_230418	HDPE (no PTFE)	20 mL	00350522022134	Grey	No	
017	0874_SW129_230418	HDPE (no PTFE)	20 mL	00350522022092	Grey	No	
017	0874_SW129_230418	HDPE (no PTFE)	20 mL	00350522022043	Grey	No	
017	0874_SW129_230418	HDPE (no PTFE)	20 mL	00350522022080	Grey	No	
018	0874_SW014_230418	HDPE (no PTFE)	20 mL	00350522022051	Grey	No	
018	0874_SW014_230418	HDPE (no PTFE)	20 mL	00350522022107	Grey	No	
018	0874_SW014_230418	HDPE (no PTFE)	20 mL	00350522022201	Grey	No	
018	0874_SW014_230418	HDPE (no PTFE)	20 mL	00350522022163	Grey	No	
019	0874_SW010_230418	HDPE (no PTFE)	20 mL	00350522022183	Grey	No	
019	0874_SW010_230418	HDPE (no PTFE)	20 mL	00350522033598	Grey	No	
019	0874_SW010_230418	HDPE (no PTFE)	20 mL	00350522022074	Grey	No	
019	0874_SW010_230418	HDPE (no PTFE)	20 mL	00350522053022	Grey	No	
020	0874_SW121_230418	HDPE (no PTFE)	20 mL	00350522022086	Grey	No	
020	0874_SW121_230418	HDPE (no PTFE)	20 mL	00350522022130	Grey	No	
020	0874_SW121_230418	HDPE (no PTFE)	20 mL	00350522021934	Grey	No	
020	0874_SW121_230418	HDPE (no PTFE)	20 mL	00350522022197	Grey	No	
021	0874_SW132_230418	HDPE (no PTFE)	20 mL	00350522052862	Grey	No	

CHAIN OF CUSTODY
 (ALS) COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY: [REDACTED]
 DATE TIME: 21/4/23
 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFASOMP_23
 SITE: 0874 RAAF TSV
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED]
 QUOTE NO: ME/624/21 [REDACTED] / EM2021AECOMAU001
 5

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

021	0874_SW132_230418	HDPE (no PTFE)	20 mL	00350522022133	Grey	No	
021	0874_SW132_230418	HDPE (no PTFE)	20 mL	00350522021969	Grey	No	
021	0874_SW132_230418	HDPE (no PTFE)	20 mL	00350522053052	Grey	No	
022	0874_SW123_230418	HDPE (no PTFE)	20 mL	00350821037817	Grey	No	
022	0874_SW123_230418	HDPE (no PTFE)	20 mL	00350821037719	Grey	No	
022	0874_SW123_230418	HDPE (no PTFE)	20 mL	00350821038186	Grey	No	
022	0874_SW123_230418	HDPE (no PTFE)	20 mL	00350821038148	Grey	No	
023	0874_SW125_230418	HDPE (no PTFE)	20 mL	00350821038167	Grey	No	
023	0874_SW125_230418	HDPE (no PTFE)	20 mL	00350821037895	Grey	No	
023	0874_SW125_230418	HDPE (no PTFE)	20 mL	00350821037781	Grey	No	
023	0874_SW125_230418	HDPE (no PTFE)	20 mL	00350821038261	Grey	No	
024	0874_SW112_230418	HDPE (no PTFE)	20 mL	00350522022106	Grey	No	
024	0874_SW112_230418	HDPE (no PTFE)	20 mL	00350522022089	Grey	No	
024	0874_SW112_230418	HDPE (no PTFE)	20 mL	00350522022096	Grey	No	
024	0874_SW112_230418	HDPE (no PTFE)	20 mL	00350522022128	Grey	No	
025	0874_SW016_230418	HDPE (no PTFE)	20 mL	00350821038068	Grey	No	
025	0874_SW016_230418	HDPE (no PTFE)	20 mL	00350821038216	Grey	No	
025	0874_SW016_230418	HDPE (no PTFE)	20 mL	00350821038203	Grey	No	
025	0874_SW016_230418	HDPE (no PTFE)	20 mL	00350821037905	Grey	No	
026	0874_SW131_230418	HDPE (no PTFE)	20 mL	00350821038177	Grey	No	
026	0874_SW131_230418	HDPE (no PTFE)	20 mL	00350522022206	Grey	No	
026	0874_SW131_230418	HDPE (no PTFE)	20 mL	00350821037978	Grey	No	
026	0874_SW131_230418	HDPE (no PTFE)	20 mL	00350522022208	Grey	No	
027	0874_SW102_230418	HDPE (no PTFE)	20 mL	00350522053000	Grey	No	
027	0874_SW102_230418	HDPE (no PTFE)	20 mL	00350522022112	Grey	No	
027	0874_SW102_230418	HDPE (no PTFE)	20 mL	00350522053023	Grey	No	
027	0874_SW102_230418	HDPE (no PTFE)	20 mL	00350522022040	Grey	No	

**CHAIN OF CUSTODY**

COC#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:


RECEIVED BY:

RELINQUISHED BY:

DATE TIME:

DATE TIME:

DATE TIME:

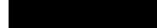
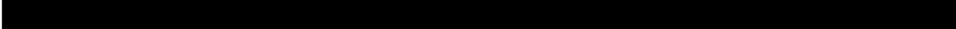

 24/4/23 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: PRIMARY SAMPLER: EMAIL REPORTS TO: EMAIL INVOICES TO: CONTACT PH: QUOTE NO: ME/624/21  / EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

•028	0874_SW117_230418	HDPE (no PTFE)	20 mL	00350522022209	Grey	No	
028	0874_SW117_230418	HDPE (no PTFE)	20 mL	00350522022010	Grey	No	
028	0874_SW117_230418	HDPE (no PTFE)	20 mL	00350522021978	Grey	No	
028	0874_SW117_230418	HDPE (no PTFE)	20 mL	00350522022066	Grey	No	
029	0874_SW118_230418	HDPE (no PTFE)	20 mL	00350522022200	Grey	No	
029	0874_SW118_230418	HDPE (no PTFE)	20 mL	00350522022044	Grey	No	
029	0874_SW118_230418	HDPE (no PTFE)	20 mL	00350522021972	Grey	No	
029	0874_SW118_230418	HDPE (no PTFE)	20 mL	00350522022001	Grey	No	
030	0874_SW115_230418	HDPE (no PTFE)	20 mL	00350522022193	Grey	No	
030	0874_SW115_230418	HDPE (no PTFE)	20 mL	00350522021938	Grey	No	
030	0874_SW115_230418	HDPE (no PTFE)	20 mL	00350522021947	Grey	No	
030	0874_SW115_230418	HDPE (no PTFE)	20 mL	00350522021950	Grey	No	
031	0874_SW116_230418	HDPE (no PTFE)	20 mL	00350522022108	Grey	No	
031	0874_SW116_230418	HDPE (no PTFE)	20 mL	00350821038043	Grey	No	
031	0874_SW116_230418	HDPE (no PTFE)	20 mL	00350522021940	Grey	No	
031	0874_SW116_230418	HDPE (no PTFE)	20 mL	00350821037772	Grey	No	
032	0874_SW109_230418	HDPE (no PTFE)	20 mL	00350522022097	Grey	No	
032	0874_SW109_230418	HDPE (no PTFE)	20 mL	00350522022039	Grey	No	
032	0874_SW109_230418	HDPE (no PTFE)	20 mL	00350522021963	Grey	No	
032	0874_SW109_230418	HDPE (no PTFE)	20 mL	00350522022161	Grey	No	
033	0874_SW108_230418	HDPE (no PTFE)	20 mL	00350522022059	Grey	No	
033	0874_SW108_230418	HDPE (no PTFE)	20 mL	00350522022153	Grey	No	
033	0874_SW108_230418	HDPE (no PTFE)	20 mL	00350522022143	Grey	No	
033	0874_SW108_230418	HDPE (no PTFE)	20 mL	00350522022114	Grey	No	
034	0874_QC102_230418	HDPE (no PTFE)	20 mL	00350522022056	Grey	No	
034	0874_QC102_230418	HDPE (no PTFE)	20 mL	00350522022151	Grey	No	
034	0874_QC102_230418	HDPE (no PTFE)	20 mL	00350522053048	Grey	No	



CHAIN OF CUSTODY

COCH#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

REC [REDACTED]

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 21/4/23
8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

CONTACT PH: [REDACTED]

QUOTE NO: ME/624/21- [REDACTED]

/ EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: C

Other comments:

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

034	0874_QC102_230418	HDPE (no PTFE)	20 mL	00350522053037	Grey	No	
035	0874_QC103_230418	HDPE (no PTFE)	20 mL	00350522022164	Grey	No	
035	0874_QC103_230418	HDPE (no PTFE)	20 mL	00350522022169	Grey	No	
035	0874_QC103_230418	HDPE (no PTFE)	20 mL	00350522022063	Grey	No	
035	0874_QC103_230418	HDPE (no PTFE)	20 mL	00350522022174	Grey	No	
036	0874_QC301_230418	HDPE (no PTFE)	20 mL	00350821053988	Grey	No	
036	0874_QC301_230418	HDPE (no PTFE)	20 mL	00350522021959	Grey	No	
036	0874_QC301_230418	HDPE (no PTFE)	20 mL	00350821053940	Grey	No	
036	0874_QC301_230418	HDPE (no PTFE)	20 mL	00350522022152	Grey	No	
037	0874_SW129_230419	HDPE (no PTFE)	20 mL	00350522021980	Grey	No	
037	0874_SW129_230419	HDPE (no PTFE)	20 mL	00350522022146	Grey	No	
037	0874_SW129_230419	HDPE (no PTFE)	20 mL	00350522022045	Grey	No	
037	0874_SW129_230419	HDPE (no PTFE)	20 mL	00350522021962	Grey	No	
038	0874_SW127_230419	HDPE (no PTFE)	20 mL	00350522022229	Grey	No	
038	0874_SW127_230419	HDPE (no PTFE)	20 mL	00350821054056	Grey	No	
038	0874_SW127_230419	HDPE (no PTFE)	20 mL	00350522021992	Grey	No	
038	0874_SW127_230419	HDPE (no PTFE)	20 mL	00350821054010	Grey	No	
039	0874_SW017_230419	HDPE (no PTFE)	20 mL	00350522022172	Grey	No	
039	0874_SW017_230419	HDPE (no PTFE)	20 mL	00350522022218	Grey	No	
039	0874_SW017_230419	HDPE (no PTFE)	20 mL	00350522022003	Grey	No	
039	0874_SW017_230419	HDPE (no PTFE)	20 mL	00350522022072	Grey	No	
040	0874_SW014_230419	HDPE (no PTFE)	20 mL	00350522022190	Grey	No	
040	0874_SW014_230419	HDPE (no PTFE)	20 mL	00350522022230	Grey	No	
040	0874_SW014_230419	HDPE (no PTFE)	20 mL	00350522022156	Grey	No	
040	0874_SW014_230419	HDPE (no PTFE)	20 mL	00350522022226	Grey	No	
041	0874_SW010_230419	HDPE (no PTFE)	20 mL	00350522021994	Grey	No	
041	0874_SW010_230419	HDPE (no PTFE)	20 mL	00350522021958	Grey	No	



CHAIN OF CUSTODY

COC#: 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

REC

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

21/4/23 8:00

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21

/ EM2021AECOMAU001
5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

* 041	0874_SW010_230419	HDPE (no PTFE)	20 mL	00350522022018	Grey	No	
041	0874_SW010_230419	HDPE (no PTFE)	20 mL	00350522022210	Grey	No	
042	0874_SW123_230419	HDPE (no PTFE)	20 mL	00350522052849	Grey	No	
042	0874_SW123_230419	HDPE (no PTFE)	20 mL	00350522052906	Grey	No	
042	0874_SW123_230419	HDPE (no PTFE)	20 mL	00350522022007	Grey	No	
042	0874_SW123_230419	HDPE (no PTFE)	20 mL	00350522021931	Grey	No	
043	0874_SW121_230419	HDPE (no PTFE)	20 mL	00350522022098	Grey	No	
043	0874_SW121_230419	HDPE (no PTFE)	20 mL	00350522022115	Grey	No	
043	0874_SW121_230419	HDPE (no PTFE)	20 mL	00350522022136	Grey	No	
043	0874_SW121_230419	HDPE (no PTFE)	20 mL	00350522022017	Grey	No	
044	0874_SW132_230419	HDPE (no PTFE)	20 mL	00350522021982	Grey	No	
044	0874_SW132_230419	HDPE (no PTFE)	20 mL	00350522021977	Grey	No	
044	0874_SW132_230419	HDPE (no PTFE)	20 mL	00350522022015	Grey	No	
044	0874_SW132_230419	HDPE (no PTFE)	20 mL	00350522022006	Grey	No	
045	0874_SW125_230419	HDPE (no PTFE)	20 mL	00350522022048	Grey	No	
045	0874_SW125_230419	HDPE (no PTFE)	20 mL	00350522021951	Grey	No	
045	0874_SW125_230419	HDPE (no PTFE)	20 mL	00350522022175	Grey	No	
045	0874_SW125_230419	HDPE (no PTFE)	20 mL	00350522022170	Grey	No	
046	0874_SW112_230419	HDPE (no PTFE)	20 mL	00350522022131	Grey	No	
046	0874_SW112_230419	HDPE (no PTFE)	20 mL	00350522022064	Grey	No	
046	0874_SW112_230419	HDPE (no PTFE)	20 mL	00350522022062	Grey	No	
046	0874_SW112_230419	HDPE (no PTFE)	20 mL	00350522022020	Grey	No	
047	0874_SW016_230419	HDPE (no PTFE)	20 mL	00350522022142	Grey	No	
047	0874_SW016_230419	HDPE (no PTFE)	20 mL	00350522021935	Grey	No	
047	0874_SW016_230419	HDPE (no PTFE)	20 mL	00350522022189	Grey	No	
047	0874_SW016_230419	HDPE (no PTFE)	20 mL	00350522022004	Grey	No	
048	0874_SW131_230419	HDPE (no PTFE)	20 mL	00350522021987	Grey	No	



CHAIN OF CUSTODY

COC#: 51080

ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 21/9/23
8:06

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21

/ EM2021AECOMAU001
5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

048	0874_SW131_230419	HDPE (no PTFE)	20 mL	00350522022032	Grey	No	
048	0874_SW131_230419	HDPE (no PTFE)	20 mL	00350522021945	Grey	No	
048	0874_SW131_230419	HDPE (no PTFE)	20 mL	00350522021974	Grey	No	
049	0874_SW102_230419	HDPE (no PTFE)	20 mL	00350522022070	Grey	No	
049	0874_SW102_230419	HDPE (no PTFE)	20 mL	00350522022019	Grey	No	
049	0874_SW102_230419	HDPE (no PTFE)	20 mL	00350522022124	Grey	No	
049	0874_SW102_230419	HDPE (no PTFE)	20 mL	00350522022154	Grey	No	
050	0874_SW117_230419	HDPE (no PTFE)	20 mL	00350522022028	Grey	No	
050	0874_SW117_230419	HDPE (no PTFE)	20 mL	00350522052911	Grey	No	
050	0874_SW117_230419	HDPE (no PTFE)	20 mL	00350522022111	Grey	No	
050	0874_SW117_230419	HDPE (no PTFE)	20 mL	00350522052809	Grey	No	
051	0874_SW118_230419	HDPE (no PTFE)	20 mL	00350522053043	Grey	No	
051	0874_SW118_230419	HDPE (no PTFE)	20 mL	00350522021989	Grey	No	
051	0874_SW118_230419	HDPE (no PTFE)	20 mL	00350522052929	Grey	No	
051	0874_SW118_230419	HDPE (no PTFE)	20 mL	00350522021965	Grey	No	
052	0874_SW115_230419	HDPE (no PTFE)	20 mL	00350821037819	Grey	No	
052	0874_SW115_230419	HDPE (no PTFE)	20 mL	00350821037957	Grey	No	
052	0874_SW115_230419	HDPE (no PTFE)	20 mL	00350522053056	Grey	No	
052	0874_SW115_230419	HDPE (no PTFE)	20 mL	00350522053014	Grey	No	
053	0874_SW116_230419	HDPE (no PTFE)	20 mL	00350522022030	Grey	No	
053	0874_SW116_230419	HDPE (no PTFE)	20 mL	00350522022228	Grey	No	
053	0874_SW116_230419	HDPE (no PTFE)	20 mL	00350522022138	Grey	No	
053	0874_SW116_230419	HDPE (no PTFE)	20 mL	00350522022126	Grey	No	
054	0874_SW109_230419	HDPE (no PTFE)	20 mL	00350522022122	Grey	No	
054	0874_SW109_230419	HDPE (no PTFE)	20 mL	00350821037826	Grey	No	
054	0874_SW109_230419	HDPE (no PTFE)	20 mL	00350522021953	Grey	No	
054	0874_SW109_230419	HDPE (no PTFE)	20 mL	00350821038300	Grey	No	

**CHAIN OF CUSTODY**

CO# 51080 ALS Laboratory: EB Brisbane

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RE

DATE TIME:

DATE TIME:

DATE TIME:

D.

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF TSV

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21 - / EM2021AECOMAU001
5**LABORATORY USE ONLY (Circle)**

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

21/4/23

8:00

055	0874_SW108_230419	HDPE (no PTFE)	20 mL	00350522022160	Grey	No	
055	0874_SW108_230419	HDPE (no PTFE)	20 mL	00350821037805	Grey	No	
055	0874_SW108_230419	HDPE (no PTFE)	20 mL	00350522022025	Grey	No	
055	0874_SW108_230419	HDPE (no PTFE)	20 mL	00350821038168	Grey	No	
056	0874_QC302_230419	HDPE (no PTFE)	20 mL	00350821038002	Grey	No	
056	0874_QC302_230419	HDPE (no PTFE)	20 mL	00350821037723	Grey	No	
056	0874_QC302_230419	HDPE (no PTFE)	20 mL	00350821038280	Grey	No	
056	0874_QC302_230419	HDPE (no PTFE)	20 mL	00350821038048	Grey	No	
057	0874_QC104_230419	HDPE (no PTFE)	20 mL	00350522052815	Grey	No	
057	0874_QC104_230419	HDPE (no PTFE)	20 mL	00350522022101	Grey	No	
057	0874_QC104_230419	HDPE (no PTFE)	20 mL	00350522052802	Grey	No	
057	0874_QC104_230419	HDPE (no PTFE)	20 mL	00350522022061	Grey	No	
058	0874_QC105_230419	HDPE (no PTFE)	20 mL	00350821038104	Grey	No	
058	0874_QC105_230419	HDPE (no PTFE)	20 mL	00350821038157	Grey	No	
058	0874_QC105_230419	HDPE (no PTFE)	20 mL	00350821037848	Grey	No	
058	0874_QC105_230419	HDPE (no PTFE)	20 mL	00350821037872	Grey	No	

Total Bottle Count: ALS: 231, Non ALS: 0

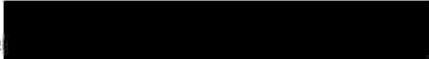
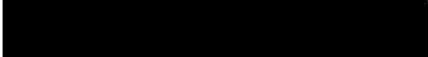



Environmental Division
Brisbane
Work Order Reference
EB2311298






Telephone : + 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: QLD-0874-PFAS&MP-23 Client: Defence Project Manager: 
 ALS Compass COC Reference: 50758 # Samples: 41 Sampler: 
 Turnaround Requirements: 50884 Standard Urgent Phone: 

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:

Relinquished by:  Date / Time: <u>17/11/23</u>	Received by:  Date / Time: <u>17/04/23 10:45am</u>	Relinquished by: Date / Time: 	Received by:  Date / Time: <u>18.4.22 8:10</u>
---	---	--	---

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

REC [REDACTED]
 DAT [REDACTED] 8:10
 18/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23
 SITE: 0874 RAAF 2023 Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:
 CONTACT PH: [REDACTED]
 QUOTE NO: ME/624/21 - [REDACTED] / EM2021AECOMAU001
 5

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	0874_QC301_230412		12/04/2023 04:35 PM	WATER	ALS: 4 Non ALS: 0	No	X		
002	0874_QC101_230413		13/04/2023 10:13 AM	WATER	ALS: 4 Non ALS: 0	No	X		
003	0874_MW269_230413		13/04/2023 10:14 AM	WATER	ALS: 4 Non ALS: 0	No	X		
004	0874_MW228_230413		13/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		
005	0874_QC302_230413		13/04/2023 04:12 PM	WATER	ALS: 4 Non ALS: 0	No	X		
006	0874_MW238_230414		14/04/2023 10:12 AM	WATER	ALS: 4 Non ALS: 0	No	X		
007	0874_MW259_230414		14/04/2023 10:13 AM	WATER	ALS: 4 Non ALS: 0	No	X		
008	0874_MW262_230414		15/04/2023 09:30 AM	WATER	ALS: 4 Non ALS: 0	No	X		
009	0874_MW233_230414		14/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY: [REDACTED]
 DATE TIME: 18/4/22
 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23
 SITE: 0874 RAAF 2023 Wet season
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

CONTACT PH: [REDACTED]
 QUOTE NO: ME/624/21 [REDACTED] / EM2021AECOMAU001
 5

Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_QC303_230414		14/04/2023 03:25 PM	WATER	ALS: 4 Non ALS: 0	No	X		
011	0874_MW252_230414		14/04/2023 02:45 PM	WATER	ALS: 4 Non ALS: 0	No	X		
012	0874_MW253_230414		14/04/2023 02:30 PM	WATER	ALS: 4 Non ALS: 0	No	X		
013	0874_MW261_230413		12/04/2023 10:55 AM	WATER	ALS: 4 Non ALS: 0	No	X		
014	0874_QC500_230414		14/04/2023 09:25 AM	WATER	ALS: 2 Non ALS: 0	No	X		

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

16/4/23

8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21

/ EM2021AECOMAU001
5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_QC301_230412	HDPE (no PTFE)	20 mL	00350522021976	Grey	No	
001	0874_QC301_230412	HDPE (no PTFE)	20 mL	00350522022176	Grey	No	
001	0874_QC301_230412	HDPE (no PTFE)	20 mL	00350821037731	Grey	No	
001	0874_QC301_230412	HDPE (no PTFE)	20 mL	00350821038217	Grey	No	
002	0874_QC101_230413	HDPE (no PTFE)	20 mL	00350522052989	Grey	No	
002	0874_QC101_230413	HDPE (no PTFE)	20 mL	00350522053042	Grey	No	
002	0874_QC101_230413	HDPE (no PTFE)	20 mL	00350522022141	Grey	No	
002	0874_QC101_230413	HDPE (no PTFE)	20 mL	00350522022191	Grey	No	
003	0874_MW269_230413	HDPE (no PTFE)	20 mL	00350522022094	Grey	No	
003	0874_MW269_230413	HDPE (no PTFE)	20 mL	00350522021964	Grey	No	
003	0874_MW269_230413	HDPE (no PTFE)	20 mL	00350522021932	Grey	No	
003	0874_MW269_230413	HDPE (no PTFE)	20 mL	00350522021973	Grey	No	
004	0874_MW228_230413	HDPE (no PTFE)	20 mL	00350621038674	Grey	No	
004	0874_MW228_230413	HDPE (no PTFE)	20 mL	00350522022068	Grey	No	
004	0874_MW228_230413	HDPE (no PTFE)	20 mL	00350621012720	Grey	No	
004	0874_MW228_230413	HDPE (no PTFE)	20 mL	00350522022215	Grey	No	
005	0874_QC302_230413	HDPE (no PTFE)	20 mL	00350522022223	Grey	No	
005	0874_QC302_230413	HDPE (no PTFE)	20 mL	00350522022180	Grey	No	
005	0874_QC302_230413	HDPE (no PTFE)	20 mL	00350522022225	Grey	No	
005	0874_QC302_230413	HDPE (no PTFE)	20 mL	00350522022024	Grey	No	
006	0874_MW238_230414	HDPE (no PTFE)	20 mL	00350522022139	Grey	No	
006	0874_MW238_230414	HDPE (no PTFE)	20 mL	00350522022177	Grey	No	
006	0874_MW238_230414	HDPE (no PTFE)	20 mL	00350522022179	Grey	No	
006	0874_MW238_230414	HDPE (no PTFE)	20 mL	00350522022145	Grey	No	
007	0874_MW259_230414	HDPE (no PTFE)	20 mL	00350522052967	Grey	No	
007	0874_MW259_230414	HDPE (no PTFE)	20 mL	00350522022118	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY: [REDACTED]

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 18/4/23
8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER: [REDACTED]

PRIMARY SAMPLER: [REDACTED]

EMAIL REPORTS TO: [REDACTED]

EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

CONTACT PH: [REDACTED]

QUOTE NO: ME/624/21 - [REDACTED] / EM2021AECOMAU001
5

007	0874_MW259_230414	HDPE (no PTFE)	20 mL	00350522021955	Grey	No	
007	0874_MW259_230414	HDPE (no PTFE)	20 mL	00350522052916	Grey	No	
008	0874_MW262_230414	HDPE (no PTFE)	20 mL	00350522022055	Grey	No	
008	0874_MW262_230414	HDPE (no PTFE)	20 mL	00350522021961	Grey	No	
008	0874_MW262_230414	HDPE (no PTFE)	20 mL	00350522022113	Grey	No	
008	0874_MW262_230414	HDPE (no PTFE)	20 mL	00350522022132	Grey	No	
009	0874_MW233_230414	HDPE (no PTFE)	20 mL	00350621026039	Grey	No	
009	0874_MW233_230414	HDPE (no PTFE)	20 mL	00350621038627	Grey	No	
009	0874_MW233_230414	HDPE (no PTFE)	20 mL	00350621038615	Grey	No	
009	0874_MW233_230414	HDPE (no PTFE)	20 mL	00350621025924	Grey	No	
010	0874_QC303_230414	HDPE (no PTFE)	20 mL	00350621038707	Grey	No	
010	0874_QC303_230414	HDPE (no PTFE)	20 mL	00350522052888	Grey	No	
010	0874_QC303_230414	HDPE (no PTFE)	20 mL	00350522052945	Grey	No	
010	0874_QC303_230414	HDPE (no PTFE)	20 mL	00350621038744	Grey	No	
011	0874_MW252_230414	HDPE (no PTFE)	20 mL	00350621038498	Grey	No	
011	0874_MW252_230414	HDPE (no PTFE)	20 mL	00350522022035	Grey	No	
011	0874_MW252_230414	HDPE (no PTFE)	20 mL	00350621038632	Grey	No	
011	0874_MW252_230414	HDPE (no PTFE)	20 mL	00350522022067	Grey	No	
012	0874_MW253_230414	HDPE (no PTFE)	20 mL	00350522022196	Grey	No	
012	0874_MW253_230414	HDPE (no PTFE)	20 mL	00350522022058	Grey	No	
012	0874_MW253_230414	HDPE (no PTFE)	20 mL	00350522022147	Grey	No	
012	0874_MW253_230414	HDPE (no PTFE)	20 mL	00350522021939	Grey	No	
013	0874_MW261_230413	HDPE (no PTFE)	20 mL	00350621025704	Grey	No	
013	0874_MW261_230413	HDPE (no PTFE)	20 mL	00350522022135	Grey	No	
013	0874_MW261_230413	HDPE (no PTFE)	20 mL	00350522022222	Grey	No	
013	0874_MW261_230413	HDPE (no PTFE)	20 mL	00350821019388	Grey	No	
014	0874_QC500_230414	HDPE (no PTFE)	20 mL	00350621033077	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 18/4/23
E.L.

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFASOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: ME/624/21 / EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

014

0874_QC500_230414

HDPE (no PTFE)

20 mL

00350621033368

Grey

No

Total Bottle Count: ALS: 54, Non ALS: 0


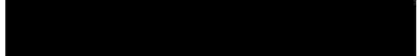
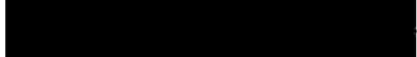



Environmental Division
 Brisbane
 Work Order Reference
EB2311297






Telephone : - 61-7-3243 7222

Custody Document for Submissions via ALS Compass App

Project: GLD 0374-PP&S/MP-23 Client: Defence Project Manager: 
 Phone: 
 ALS Compass COC Reference: 50758 # Samples: 41 Sampler: 
 Phone: 
 Turnaround Requirements: Standard ^{+50884.} Urgent

Special Instructions:	ALS Use Only			
	Custody seal intact?	YES	NO	N/A
	Free ice / frozen ice bricks upon receipt?	YES	NO	N/A
	Random sample temperature on receipt?			°C

Custody:			
Relinquished by: 	Received by: 	Relinquished by:	Received by: 
Date / Time: <u>17/04/23</u>	Date / Time: <u>17/04/23 10:45am</u>	Date / Time:	Date / Time: <u>18-04-22 8:10</u>

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

18/04/23
8:16

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: ME/624/21 -

/ EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS REQUIRED		ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
							EP231X - PFAS Full Suite WATER	EP231X (SOLIDS) - PFAS Full Suite SOIL		
001	0874_MW237_230411		11/04/2023 01:14 PM	WATER	ALS: 4 Non ALS: 0	No	X			
002	0874_MW240_230411		11/04/2023 02:04 PM	WATER	ALS: 4 Non ALS: 0	No	X			
003	0874_MW266_230411		11/04/2023 03:47 PM	WATER	ALS: 4 Non ALS: 0	No	X			
004	0874_QC350_230411		11/04/2023 04:42 PM	WATER	ALS: 4 Non ALS: 0	No	X			
005	0874_QC300_230411		11/04/2023 05:21 PM	WATER	ALS: 4 Non ALS: 0	No	X			
006	0874_SD203_230411		10/04/2023 02:45 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
007	0874_SD205_230411		10/04/2023 01:25 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
008	0874_SD202_230411		10/04/2023 12:35 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
009	0874_SD207_230411		10/04/2023 02:15 PM	SOIL	ALS: 1 Non ALS: 0	No		X		

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED [REDACTED]
 DATE TIME: 28/4/23
 8:06

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFASOMP_23
 SITE: 0874 RAAF 2023 Wet season
 ORDER NO: 60612487_2.1
 PROJECT MANAGER: [REDACTED]
 PRIMARY SAMPLER: [REDACTED]
 EMAIL REPORTS TO: [REDACTED]
 EMAIL INVOICES TO: [REDACTED]

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

CONTACT PH: [REDACTED]
 QUOTE NO: ME/624/21 [REDACTED] / EM2021AECOMAU001
 5

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	EP231X (SOLIDS) - PFAS Full Suite SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	0874_SD206_230411		10/04/2023 01:50 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
011	0874_SD204_230411		10/04/2023 03:05 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
012	0874_QC101_230411		10/04/2023 01:50 PM	SOIL	ALS: 1 Non ALS: 0	No		X		
013	0874_SW205_230411		10/04/2023 01:10 PM	WATER	ALS: 4 Non ALS: 0	No	X			
014	0874_SW202_230411		10/04/2023 12:30 PM	WATER	ALS: 4 Non ALS: 0	No	X			
015	0874_QC100_230411		10/04/2023 01:45 PM	WATER	ALS: 4 Non ALS: 0	No	X			
016	0874_SW207_230411		10/04/2023 02:10 PM	WATER	ALS: 4 Non ALS: 0	No	X			
017	0874_SW203_230411		10/04/2023 02:40 PM	WATER	ALS: 4 Non ALS: 0	No	X			
018	0874_SW206_230411		10/04/2023 01:42 PM	WATER	ALS: 4 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME:

18/4/23 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFAASOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21-

/ EM2021AECOMAU001
5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: C
 Other comments:

SAMPLE DETAILS

ANALYSIS REQUIRED

SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	EP231X - PFAS Full Suite WATER	EP231X (SOLIDS) - PFAS Full Suite SOIL	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	0874_SW204_230411		10/04/2023 03:00 PM	WATER	ALS: 4 Non ALS: 0	No	X			
020	0874_MW231_230411		10/04/2023 03:45 PM	WATER	ALS: 4 Non ALS: 0	No	X			
021	0874_MW254_230412		12/04/2023 11:45 AM	WATER	ALS: 4 Non ALS: 0	No	X			
022	0874_MW260_230412		12/04/2023 03:42 PM	WATER	ALS: 4 Non ALS: 0	No	X			
023	0874_MW236_230412		12/04/2023 03:44 PM	WATER	ALS: 4 Non ALS: 0	No	X			
024	0874_MW257_230412		12/04/2023 10:45 AM	WATER	ALS: 4 Non ALS: 0	No	X			
025	0874_MW268_230412		13/04/2023 09:30 AM	WATER	ALS: 4 Non ALS: 0	No	X			
026	0847_MW270_230412		12/04/2023 10:10 AM	WATER	ALS: 4 Non ALS: 0	No	X			
027	0847_MW256_230412		13/04/2023 09:00 AM	WATER	ALS: 4 Non ALS: 0	No	X			

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 18/4/23
8:15

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

CONTACT PH:

QUOTE NO: ME/624/21

/ EM2021AECOMAU001
5

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C
 Other comments:

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	0874_MW237_230411	HDPE (no PTFE)	20 mL	00350821038276	Grey	No	
001	0874_MW237_230411	HDPE (no PTFE)	20 mL	00350821037959	Grey	No	
001	0874_MW237_230411	HDPE (no PTFE)	20 mL	00350821037985	Grey	No	
001	0874_MW237_230411	HDPE (no PTFE)	20 mL	00350821037965	Grey	No	
002	0874_MW240_230411	HDPE (no PTFE)	20 mL	00350821038178	Grey	No	
002	0874_MW240_230411	HDPE (no PTFE)	20 mL	00350821038191	Grey	No	
002	0874_MW240_230411	HDPE (no PTFE)	20 mL	00350821037950	Grey	No	
002	0874_MW240_230411	HDPE (no PTFE)	20 mL	00350821037956	Grey	No	
003	0874_MW266_230411	HDPE (no PTFE)	20 mL	00350821037907	Grey	No	
003	0874_MW266_230411	HDPE (no PTFE)	20 mL	00350821037909	Grey	No	
003	0874_MW266_230411	HDPE (no PTFE)	20 mL	00350821037740	Grey	No	
003	0874_MW266_230411	HDPE (no PTFE)	20 mL	00350821037833	Grey	No	
004	0874_QC350_230411	HDPE (no PTFE)	20 mL	00350821038229	Grey	No	
004	0874_QC350_230411	HDPE (no PTFE)	20 mL	00350522022047	Grey	No	
004	0874_QC350_230411	HDPE (no PTFE)	20 mL	00350522022085	Grey	No	
004	0874_QC350_230411	HDPE (no PTFE)	20 mL	00350821038265	Grey	No	
005	0874_QC300_230411	HDPE (no PTFE)	20 mL	00350821037835	Grey	No	
005	0874_QC300_230411	HDPE (no PTFE)	20 mL	00350821038195	Grey	No	
005	0874_QC300_230411	HDPE (no PTFE)	20 mL	00350821037921	Grey	No	
005	0874_QC300_230411	HDPE (no PTFE)	20 mL	00350821037717	Grey	No	
006	0874_SD203_230411	HDPE Soil Jar	200 mL	00620322045871	Grey	No	
007	0874_SD205_230411	HDPE Soil Jar	200 mL	00621019120181	Grey	No	
008	0874_SD202_230411	HDPE Soil Jar	200 mL	00620322093438	Grey	No	
009	0874_SD207_230411	HDPE Soil Jar	200 mL	00621019120268	Grey	No	
010	0874_SD206_230411	HDPE Soil Jar	200 mL	00620322045800	Grey	No	
011	0874_SD204_230411	HDPE Soil Jar	200 mL	00620719044277	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY: [Redacted]
 DATE TIME: 18/4/23

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23
 SITE: 0874 RAAF 2023 Wet season
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]
 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

CONTACT PH: [Redacted]
 QUOTE NO: ME/624/21 [Redacted] / EM2021AECOMAU0015

Other comments:

012	0874_QC101_230411	HDPE Soil Jar	200 mL	00621019120253	Grey	No	
013	0874_SW205_230411	HDPE (no PTFE)	20 mL	00350821038142	Grey	No	
013	0874_SW205_230411	HDPE (no PTFE)	20 mL	00350821037885	Grey	No	
013	0874_SW205_230411	HDPE (no PTFE)	20 mL	00350821038073	Grey	No	
013	0874_SW205_230411	HDPE (no PTFE)	20 mL	00350821038136	Grey	No	
014	0874_SW202_230411	HDPE (no PTFE)	20 mL	00350821037855	Grey	No	
014	0874_SW202_230411	HDPE (no PTFE)	20 mL	00350821037972	Grey	No	
014	0874_SW202_230411	HDPE (no PTFE)	20 mL	00350821038019	Grey	No	
014	0874_SW202_230411	HDPE (no PTFE)	20 mL	00350821038076	Grey	No	
015	0874_QC100_230411	HDPE (no PTFE)	20 mL	00350821037943	Grey	No	
015	0874_QC100_230411	HDPE (no PTFE)	20 mL	00350821038125	Grey	No	
015	0874_QC100_230411	HDPE (no PTFE)	20 mL	00350821038110	Grey	No	
015	0874_QC100_230411	HDPE (no PTFE)	20 mL	00350821038001	Grey	No	
016	0874_SW207_230411	HDPE (no PTFE)	20 mL	00350821038283	Grey	No	
016	0874_SW207_230411	HDPE (no PTFE)	20 mL	00350821038244	Grey	No	
016	0874_SW207_230411	HDPE (no PTFE)	20 mL	00350821038031	Grey	No	
016	0874_SW207_230411	HDPE (no PTFE)	20 mL	00350821038200	Grey	No	
017	0874_SW203_230411	HDPE (no PTFE)	20 mL	00350821037898	Grey	No	
017	0874_SW203_230411	HDPE (no PTFE)	20 mL	00350821038077	Grey	No	
017	0874_SW203_230411	HDPE (no PTFE)	20 mL	00350821037754	Grey	No	
017	0874_SW203_230411	HDPE (no PTFE)	20 mL	00350821037818	Grey	No	
018	0874_SW206_230411	HDPE (no PTFE)	20 mL	00350821037726	Grey	No	
018	0874_SW206_230411	HDPE (no PTFE)	20 mL	00350821038071	Grey	No	
018	0874_SW206_230411	HDPE (no PTFE)	20 mL	00350821038064	Grey	No	
018	0874_SW206_230411	HDPE (no PTFE)	20 mL	00350821038309	Grey	No	
019	0874_SW204_230411	HDPE (no PTFE)	20 mL	00350821038023	Grey	No	
019	0874_SW204_230411	HDPE (no PTFE)	20 mL	00350821037894	Grey	No	

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY:
 DATE TIME:

RELINQUISHED BY:
 DATE TIME:

RECEIVED BY: [Redacted]
 DATE TIME: 18/4/23 8:10

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD
 PROJECT: QLD_0874_PFSOMP_23
 SITE: 0874 RAAF 2023 Wet season
 ORDER NO: 60612487_2.1

TURNAROUND REQUIREMENTS : 5 Days
 Biohazard info:

LABORATORY USE ONLY (Circle)
 Custody Seal intact? Yes No N/A
 Free ice / frozen ice bricks present upon receipt? Yes No N/A
 Random Sample Temperature on Receipt: °C

PROJECT MANAGER: [Redacted]
 PRIMARY SAMPLER: [Redacted]
 EMAIL REPORTS TO: [Redacted]
 EMAIL INVOICES TO: [Redacted]

CONTACT PH: [Redacted]
 QUOTE NO: ME/624/21 [Redacted] / EM2021AECOMAU001
 5

Other comments:

019	0874_SW204_230411	HDPE (no PTFE)	20 mL	00350821037995	Grey	No	
019	0874_SW204_230411	HDPE (no PTFE)	20 mL	00350821038049	Grey	No	
020	0874_MW231_230411	HDPE (no PTFE)	20 mL	00350821037715	Grey	No	
020	0874_MW231_230411	HDPE (no PTFE)	20 mL	00350821038013	Grey	No	
020	0874_MW231_230411	HDPE (no PTFE)	20 mL	00350821037850	Grey	No	
020	0874_MW231_230411	HDPE (no PTFE)	20 mL	00350821037712	Grey	No	
021	0874_MW254_230412	HDPE (no PTFE)	20 mL	00350522022116	Grey	No	
021	0874_MW254_230412	HDPE (no PTFE)	20 mL	00350522022150	Grey	No	
021	0874_MW254_230412	HDPE (no PTFE)	20 mL	00350522022103	Grey	No	
021	0874_MW254_230412	HDPE (no PTFE)	20 mL	00350522021995	Grey	No	
022	0874_MW260_230412	HDPE (no PTFE)	20 mL	00350522022148	Grey	No	
022	0874_MW260_230412	HDPE (no PTFE)	20 mL	00350522022173	Grey	No	
022	0874_MW260_230412	HDPE (no PTFE)	20 mL	00350522022182	Grey	No	
022	0874_MW260_230412	HDPE (no PTFE)	20 mL	00350522022194	Grey	No	
023	0874_MW236_230412	HDPE (no PTFE)	20 mL	00350522022008	Grey	No	
023	0874_MW236_230412	HDPE (no PTFE)	20 mL	00350522022014	Grey	No	
023	0874_MW236_230412	HDPE (no PTFE)	20 mL	00350522021952	Grey	No	
023	0874_MW236_230412	HDPE (no PTFE)	20 mL	00350522021975	Grey	No	
024	0874_MW257_230412	HDPE (no PTFE)	20 mL	00350522022212	Grey	No	
024	0874_MW257_230412	HDPE (no PTFE)	20 mL	00350522022137	Grey	No	
024	0874_MW257_230412	HDPE (no PTFE)	20 mL	00350522052925	Grey	No	
024	0874_MW257_230412	HDPE (no PTFE)	20 mL	00350522052981	Grey	No	
025	0874_MW268_230412	HDPE (no PTFE)	20 mL	00350522021996	Grey	No	
025	0874_MW268_230412	HDPE (no PTFE)	20 mL	00350522021981	Grey	No	
025	0874_MW268_230412	HDPE (no PTFE)	20 mL	00350522022120	Grey	No	
025	0874_MW268_230412	HDPE (no PTFE)	20 mL	00350522022188	Grey	No	
026	0847_MW270_230412	HDPE (no PTFE)	20 mL	00350522022036	Grey	No	

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

DATE TIME:

DATE TIME:

DATE TIME:

DATE TIME: 18/4/23
8:50

CLIENT: AECOMAU - AECOM AUSTRALIA PTY LTD

PROJECT: QLD_0874_PFSOMP_23

SITE: 0874 RAAF 2023 Wet season

ORDER NO: 60612487_2.1

PROJECT MANAGER:

PRIMARY SAMPLER:

EMAIL REPORTS TO:

EMAIL INVOICES TO:

CONTACT PH:

QUOTE NO: ME/624/21 - / EM2021AECOMAU001
5

TURNAROUND REQUIREMENTS : 5 Days

Biohazard info:

LABORATORY USE ONLY (Circle)

Custody Seal intact? Yes No N/A

Free ice / frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comments:

026	0847_MW270_230412	HDPE (no PTFE)	20 mL	00350522052980	Grey	No	
026	0847_MW270_230412	HDPE (no PTFE)	20 mL	00350522021960	Grey	No	
026	0847_MW270_230412	HDPE (no PTFE)	20 mL	00350522053008	Grey	No	
027	0847_MW256_230412	HDPE (no PTFE)	20 mL	00350821038193	Grey	No	
027	0847_MW256_230412	HDPE (no PTFE)	20 mL	00350821037997	Grey	No	
027	0847_MW256_230412	HDPE (no PTFE)	20 mL	00350821037790	Grey	No	
027	0847_MW256_230412	HDPE (no PTFE)	20 mL	00350821038243	Grey	No	

Total Bottle Count: ALS: 87, Non ALS: 0



CHAIN OF CUSTODY RECORD

Sydney | Enmore | Sydney | NSW 4005-196502



Sydney Laboratory
175 Margaret Street, Enmore NSW 2058
02 9551 8833 | Enmore@epet.com.au



Enmore Laboratory
196-121, Wentworth Point, Moorebank QLD 4172
07 5502 8507 | Enmore@epet.com.au



Perth Laboratory
60-64 Augusta Street, West Perth WA 6005
08 9453 4444 | Perth@epet.com.au



Melbourne Laboratory
11 Marriway Road, Donkeyholme VIC 3175
03 8562 6390 | Enmore@epet.com.au

Company AECOM		Project No 60612487_2.1		Project Manager [REDACTED]		Sampler(s) [REDACTED]					
Address [REDACTED]		Project Name QLD_0874_PFA5OMP_23		EDO Format E-0874_PFA5OMP_23		Facility Code					
Contact Name [REDACTED]		Analysis <small>Wherever data are reported, please specify whether the "matrix" (SOILT) code found for each analysis (SOILT) applies.</small>		PFAS Extended suite (26 analyses) standards for		Containers <small>Change container type & size if necessary</small>		Required Turnaround Time (TAT) <small>Default will be 5 days unless noted</small>			
Phone No 438865048								<input type="checkbox"/> Overnight (importing by Sam)			
Special Directions								<input type="checkbox"/> Same-day			
Purchase Order 60612487_2.1								<input type="checkbox"/> 2 days			
Quote ID No Aecom blanket quote						<input type="checkbox"/> 3 days		<input type="checkbox"/> 5 days (Standard)			
						<input type="checkbox"/> Other		Sample Comments / Dangerous Goods Hazard Warning			
						ON HOLD					
No	Client Sample ID	Sampled Date/Time	Matrix								
1	0874_QC221_230503	3/05/23	Soil	X							
2	0874_QC208_230421	21/04/23	Soil	X							
3	0874_QC213_230422	22/04/23	Soil	X							
4	0874_QC211_230421	21/04/23	Soil	X							
5	0874_QC222_230504	4/05/23	Water	X							
6	0874_QC224_230504	4/05/23	Water	X							
7	0874_QC219_230427	27/04/23	Water	X							
8	0874_QC223_230504	4/05/23	Water	X							
9	0874_QC217_230426	26/05/23	Water	X							
10	0874_QC552_230505	5/05/23	Water	X							
Add Rows			Total Counts	10							
Method of Shipment		<input type="checkbox"/> Courier (P)	<input checked="" type="checkbox"/> Hand Delivered	<input type="checkbox"/> Postal	Name	[REDACTED]	Signature	[REDACTED]	Date	5/05/2023	Time
Laboratory Use Only		Received By	SYD BNE MEL PER ADL NTL DRW	Signature		Date		Time		Temperature	
		Received By	SYD BNE MEL PER ADL NTL DRW	Signature		Date		Time		Report No	

PTO

CHAIN OF CUSTODY DOCUMENTATION

CLIENT: AECOM Australia
 ADDRESS / OFFICE: AECOM Townsville, level 5, 7-13 Tomlina St, South Townsville
 PROJECT MANAGER (PM): [Redacted]
 PROJECT ID: 60612487
 SITE: RAAF BASE TOWNSVILLE P.O. NO. 60612487-2.1

SAMP: [Redacted]
 MOBIL: [Redacted]
 PHON: [Redacted]
 EMAIL: [Redacted]
 EMAIL INVOICE TO: (# different to report)
 Laboratory: JNS TSV

RESULTS REQUIRED (Date): 10 Oct 2023 QUOTE NO: AECOM QUANTUM QUOTE
FOR LABORATORY USE ONLY
 COOLER SEAL (circle appropriate)
 Intact: Yes No NA
SAMPLE TEMPERATURE
 CHILLED: Yes No

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)
 PFA 5 (extended)
 Suite - 28
 analytes) Std
 LOE
 Notes: e.g. Highly contaminated samples e.g. "High PAHs expected".
 Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Sol, W = Water)					CONTAINER INFORMATION		X	PFA 5 (extended)	Suite - 28	analytes) Std	LOE	HOLD
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles						
0874	QC25-230411	S	11/4/23		P	1	X					
0874	QC205-230419	W	19/4/23		P	2	X					
0874	QC202-230411	W	11/4/23	13:45	P	2	X					
0874	QC203-230418	W	18/4/23	15:50	P	2	X					
0874	QC204-230419	W	19/4/23		P	2	X					
0874	QC202-230413	W	13/4/23		P	2	X					
0874	QC206-230417	W	17/4/23	17:00	P	2	X					
0874	QC102-230418	W	18/4/23	13:00	P	2	X					
0874	QC200-230418	W	17/4/23	14:55	P	2	X					

RELINQUISHED BY: [Redacted] Date: 20/4/23 Time: 12:00
 RECEIVED BY: [Redacted] Date: 20/4/23 Time: 12:39
 METHOD OF SHIPMENT: [Redacted]
 Name: [Redacted] Of: AECOM
 Name: [Redacted] Of: [Redacted]
 Name: [Redacted] Of: [Redacted]

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved;
 V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; BG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solns; B = Unpreserved Bag

Appendix E

Laboratory Analytical Reports



CERTIFICATE OF ANALYSIS

Work Order	: EB2311297	Page	: 1 of 14
Amendment	: 2	Laboratory	: Environmental Division Brisbane
Client	: AECOM AUSTRALIA PTY LTD	Contact	: [REDACTED]
Contact	: [REDACTED]	Address	: [REDACTED]
Address	: [REDACTED]	Telephone	: [REDACTED]
Telephone	: ----	Date Samples Received	: 18-Apr-2023 08:10
Project	: QLD_0874_PFASOMP_23	Date Analysis Commenced	: 18-Apr-2023
Order number	: 60612487_2.1	Issue Date	: 29-Jun-2023 22:19
C-O-C number	: 50758		
Sampler	: [REDACTED]		
Site	: 0874 RAAF 2023 Wet season		
Quote number	: TV/007/21 v2 - Compass		
No. of samples received	: 27		
No. of samples analysed	: 27		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (17/05/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [REDACTED] on 17/05/2023, for samples EB2311297 samples 026, 027. All analysis results are as per the previous report.
- Amendment (DD/MM/YYYY): This report has been amended as a result of misinterpretation of sampling dates for samples EB2311297-006, EB2311297-007, EB2311297-008, EB2311297-009, EB2311297-010, EB2311297-011, EB2311297-012, EB2311297-013, EB2311297-014, EB2311297-015, EB2311297-016, EB2311297-017, EB2311297-018, EB2311297-019, EB2311297-020, EB2311297-025, EB2311297-027. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD203_230411	0874_SD205_230411	0874_SD202_230411	0874_SD207_230411	0874_SD206_230411
Sampling date / time				11-Apr-2023 14:45	11-Apr-2023 13:25	11-Apr-2023 12:35	11-Apr-2023 14:15	11-Apr-2023 13:50	
Compound	CAS Number	LOR	Unit	EB2311297-006	EB2311297-007	EB2311297-008	EB2311297-009	EB2311297-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0034	0.0036	0.0018	0.0041	0.0075	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0034	0.0034	0.0018	0.0039	0.0068	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0034	0.0036	0.0018	0.0041	0.0075	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	0874_SD204_230411	0874_QC151_230411	----	----	----
Sampling date / time			11-Apr-2023 15:05	11-Apr-2023 13:50	----	----	----	
Compound	CAS Number	LOR	Unit	EB2311297-011	EB2311297-012	-----	-----	-----
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	41.8	38.9	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0003	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0053	0.0059	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.0003	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0002	0.0003	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD204_230411	0874_QC151_230411	----	----	----
Sampling date / time				11-Apr-2023 15:05	11-Apr-2023 13:50	----	----	----	
Compound	CAS Number	LOR	Unit	EB2311297-011	EB2311297-012	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0055	0.0068	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0053	0.0062	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0055	0.0068	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW237_230411	0874_MW240_230411	0874_MW266_230411	0874_QC350_230411	0874_QC300_230411
Sampling date / time				11-Apr-2023 13:14	11-Apr-2023 14:04	11-Apr-2023 15:47	11-Apr-2023 16:42	11-Apr-2023 17:21	
Compound	CAS Number	LOR	Unit	EB2311297-001	EB2311297-002	EB2311297-003	EB2311297-004	EB2311297-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.02	<0.01	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.07	<0.01	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.14	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW237_230411	0874_MW240_230411	0874_MW266_230411	0874_QC350_230411	0874_QC300_230411
Sampling date / time					11-Apr-2023 13:14	11-Apr-2023 14:04	11-Apr-2023 15:47	11-Apr-2023 16:42	11-Apr-2023 17:21
Compound	CAS Number	LOR	Unit	EB2311297-001	EB2311297-002	EB2311297-003	EB2311297-004	EB2311297-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.27	<0.01	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.09	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.27	<0.01	<0.01	<0.01	<0.01



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW205_230411	0874_SW202_230411	0874_QC150_230411	0874_SW207_230411	0874_SW203_230411
Sampling date / time					11-Apr-2023 13:10	11-Apr-2023 12:30	11-Apr-2023 13:45	11-Apr-2023 14:10	11-Apr-2023 14:40
Compound	CAS Number	LOR	Unit	EB2311297-013	EB2311297-014	EB2311297-015	EB2311297-016	EB2311297-017	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.06	<0.02	0.06	0.03	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	<0.02	0.04	0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.27	0.04	0.26	0.17	0.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.26	0.04	0.27	0.14	0.08	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.10	<0.02	0.09	0.06	0.03	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	0.02	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW205_230411	0874_SW202_230411	0874_QC150_230411	0874_SW207_230411	0874_SW203_230411
Sampling date / time				11-Apr-2023 13:10	11-Apr-2023 12:30	11-Apr-2023 13:45	11-Apr-2023 14:10	11-Apr-2023 14:40	
Compound	CAS Number	LOR	Unit	EB2311297-013	EB2311297-014	EB2311297-015	EB2311297-016	EB2311297-017	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.77	0.08	0.76	0.43	0.21	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.53	0.08	0.53	0.31	0.18	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.73	0.08	0.72	0.41	0.21	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW206_230411	0874_SW204_230411	0874_MW231_230411	0874_MW254_230412	0874_MW260_230412
Sampling date / time					11-Apr-2023 13:42	11-Apr-2023 15:00	11-Apr-2023 15:45	12-Apr-2023 11:45	12-Apr-2023 15:42
Compound	CAS Number	LOR	Unit	EB2311297-018	EB2311297-019	EB2311297-020	EB2311297-021	EB2311297-022	EB2311297-022
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.72	0.11	<0.01	<0.01	<0.01	0.02
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.49	0.11	<0.01	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.68	0.11	<0.01	<0.01	<0.01	0.02



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW236_230412	0874_MW257_230412	0874_MW268_230412	0874_MW270_230412	0874_MW256_230412
Sampling date / time					12-Apr-2023 15:44	12-Apr-2023 10:45	12-Apr-2023 09:30	12-Apr-2023 10:10	12-Apr-2023 09:00
Compound	CAS Number	LOR	Unit	EB2311297-023	EB2311297-024	EB2311297-025	EB2311297-026	EB2311297-027	EB2311297-027
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.04	<0.02	0.02	0.03	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.04	<0.01	<0.01	0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.04	<0.01	<0.01	0.08	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW236_230412	0874_MW257_230412	0874_MW268_230412	0874_MW270_230412	0874_MW256_230412
Sampling date / time				12-Apr-2023 15:44	12-Apr-2023 10:45	12-Apr-2023 09:30	12-Apr-2023 10:10	12-Apr-2023 09:00	
Compound	CAS Number	LOR	Unit	EB2311297-023	EB2311297-024	EB2311297-025	EB2311297-026	EB2311297-027	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.12	<0.01	0.02	0.16	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.08	<0.01	<0.01	0.09	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.12	<0.01	0.02	0.16	



QUALITY CONTROL REPORT

Work Order : EB2311297

Page : 1 of 15

Amendment : 2

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23

Date Samples Received : 18-Apr-2023

Order number : 60612487_2.1

Date Analysis Commenced : 18-Apr-2023

C-O-C number : 50758

Issue Date : 29-Jun-2023

Sampler : [REDACTED]

Site : 0874 RAAF 2023 Wet season

Quote number : TV/007/21 v2 - Compass

No. of samples received : 27

No. of samples analysed : 27



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5000157)									
EB2311297-006	0874_SD203_230411	EA055: Moisture Content	----	0.1	%	39.3	40.4	2.9	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000156)									
EB2311183-004	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EB2311297-007	0874_SD205_230411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0005	0.0004	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0029	0.0031	7.0	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000156)									
EB2311183-004	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000156) - continued									
EB2311183-004	Anonymous	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EB2311297-007	0874_SD205_230411	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0002	0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000156)									
EB2311183-004	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2311297-007	0874_SD205_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000156)									



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000156) - continued									
EB2311183-004	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EB2311297-007	0874_SD205_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000384)									
EB2311297-001	0874_MW237_230411	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311297-018	0874_SW206_230411	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.26	0.27	4.7	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.23	0.23	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000385)									
EB2311297-027	0874_MW256_230412	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.07	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311298-010	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000385) - continued									
EB2311298-010	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000384)									
EB2311297-001	0874_MW237_230411	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2311297-018	0874_SW206_230411	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.10	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000385)									
EB2311297-027	0874_MW256_230412	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EB2311298-010	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000385) - continued									
EB2311298-010	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000384)									
EB2311297-001	0874_MW237_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311297-018	0874_SW206_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000385)									
EB2311297-027	0874_MW256_230412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000385) - continued									
EB2311297-027	0874_MW256_230412	EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311298-010	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000384)									
EB2311297-001	0874_MW237_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311297-018	0874_SW206_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000385)									



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000385) - continued									
EB2311297-027	0874_MW256_230412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311298-010	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5000384)									
EB2311297-001	0874_MW237_230411	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
EB2311297-018	0874_SW206_230411	EP231X: Sum of PFAS	----	0.01	µg/L	0.72	0.75	4.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.49	0.50	2.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.68	0.71	4.3	0% - 20%
EP231P: PFAS Sums (QC Lot: 5000385)									
EB2311297-027	0874_MW256_230412	EP231X: Sum of PFAS	----	0.01	µg/L	0.16	0.13	20.7	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	0.08	11.8	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	0.13	20.7	0% - 50%
EB2311298-010	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000156)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	123	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	112	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	100	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	107	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	112	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	122	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000156)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	115	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	92.4	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	103	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	124	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	114	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000156)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	107	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	122	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	114	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	116	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000156)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000156) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	107	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	124	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	122	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	124	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000384)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	130	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	118	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	111	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	119	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	108	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000385)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	114	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	117	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	107	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	120	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	112	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	109	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000384)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	113	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	117	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	107	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	108	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	104	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	134	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	89.1	71.0	132	

EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000385)



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000385) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	109	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	98.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000384)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	130	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	107	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	113	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	122	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	108	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	113	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000385)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	109	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	112	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	107	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	128	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000384)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000384) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	126	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	111	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	105	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	93.2	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000385)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	116	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	130	64.2	133
EP231P: PFAS Sums (QCLot: 5000384)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5000385)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
						Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000156)							
EB2311183-006	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	120	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	115	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	111	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	113	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	123	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	125	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000156)							
EB2311183-006	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	117	71.0	135



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000156) - continued							
EB2311183-006	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	112	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	113	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	105	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	109	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	110	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	116	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	114	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	108	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	133	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	117	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000156)							
EB2311183-006	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	113	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	122	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	101	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	107	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	107	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	126	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000156)							
EB2311183-006	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	126	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	129	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	104	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	116	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000384)							
EB2311297-002	0874_MW240_230411	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	118	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	123	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	114	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	122	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	109	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	123	53.0	142



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Acceptable Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000385)									
EB2311298-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	122	71.0	127		
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	113	68.0	131		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	117	69.0	134		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	117	65.0	140		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	128	53.0	142		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000384)									
EB2311297-002	0874_MW240_230411	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	104	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	107	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	112	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	113	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	107	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	112	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	97.9	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	116	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	113	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	110	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	107	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000385)									
EB2311298-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	112	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	118	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	113	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	117	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	107	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	106	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	119	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	122	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	101	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132		
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000384)							
		EB2311297-002	0874_MW240_230411	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	124	59.0	135
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8			0.625 µg/L	120	70.0	130		
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2			0.625 µg/L	107	70.0	130		
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7			0.625 µg/L	110	70.0	130		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000384) - continued							
EB2311297-002	0874_MW240_230411	EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	116	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	119	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	92.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000385)							
EB2311298-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	129	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	118	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	116	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	119	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	93.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000384)							
EB2311297-002	0874_MW240_230411	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	103	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	115	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	111	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	121	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000385)							
EB2311298-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	124	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	111	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2311297	Page	: 1 of 7
Amendment	: 2		
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 18-Apr-2023
Site	: 0874 RAAF 2023 Wet season	Issue Date	: 29-Jun-2023
Sampler	: [REDACTED]	No. of samples received	: 27
Order number	: 60612487_2.1	No. of samples analysed	: 27

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411	11-Apr-2023	----	----	----	19-Apr-2023	25-Apr-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411	11-Apr-2023	20-Apr-2023	08-Oct-2023	✓	24-Apr-2023	30-May-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411	11-Apr-2023	20-Apr-2023	08-Oct-2023	✓	24-Apr-2023	30-May-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411	11-Apr-2023	20-Apr-2023	08-Oct-2023	✓	24-Apr-2023	30-May-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411	11-Apr-2023	20-Apr-2023	08-Oct-2023	✓	24-Apr-2023	30-May-2023	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD203_230411, 0874_SD202_230411, 0874_SD206_230411, 0874_QC151_230411	0874_SD205_230411, 0874_SD207_230411, 0874_SD204_230411,	11-Apr-2023	20-Apr-2023	08-Oct-2023	✓	24-Apr-2023	30-May-2023	✓

Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW237_230411, 0874_MW266_230411, 0874_QC300_230411, 0874_SW202_230411, 0874_SW207_230411, 0874_SW206_230411, 0874_MW231_230411	0874_MW240_230411, 0874_QC350_230411, 0874_SW205_230411, 0874_QC150_230411, 0874_SW203_230411, 0874_SW204_230411,	11-Apr-2023	22-Apr-2023	08-Oct-2023	✓	24-Apr-2023	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW254_230412, 0874_MW236_230412, 0874_MW268_230412,	0874_MW260_230412, 0874_MW257_230412, 0874_MW270_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	24-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW256_230412		12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW237_230411, 0874_MW266_230411, 0874_QC300_230411, 0874_SW202_230411, 0874_SW207_230411, 0874_SW206_230411, 0874_MW231_230411	0874_MW240_230411, 0874_QC350_230411, 0874_SW205_230411, 0874_QC150_230411, 0874_SW203_230411, 0874_SW204_230411,	11-Apr-2023	22-Apr-2023	08-Oct-2023	✓	24-Apr-2023	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW254_230412, 0874_MW236_230412, 0874_MW268_230412,	0874_MW260_230412, 0874_MW257_230412, 0874_MW270_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	24-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW256_230412		12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW237_230411, 0874_MW266_230411, 0874_QC300_230411, 0874_SW202_230411, 0874_SW207_230411, 0874_SW206_230411, 0874_MW231_230411	0874_MW240_230411, 0874_QC350_230411, 0874_SW205_230411, 0874_QC150_230411, 0874_SW203_230411, 0874_SW204_230411,	11-Apr-2023	22-Apr-2023	08-Oct-2023	✓	24-Apr-2023	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW254_230412, 0874_MW236_230412, 0874_MW268_230412,	0874_MW260_230412, 0874_MW257_230412, 0874_MW270_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	24-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW256_230412		12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW237_230411, 0874_MW266_230411, 0874_QC300_230411, 0874_SW202_230411, 0874_SW207_230411, 0874_SW206_230411, 0874_MW231_230411	0874_MW240_230411, 0874_QC350_230411, 0874_SW205_230411, 0874_QC150_230411, 0874_SW203_230411, 0874_SW204_230411,	11-Apr-2023	22-Apr-2023	08-Oct-2023	✓	24-Apr-2023	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW254_230412, 0874_MW236_230412, 0874_MW268_230412,	0874_MW260_230412, 0874_MW257_230412, 0874_MW270_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	24-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW256_230412		12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW237_230411, 0874_MW266_230411, 0874_QC300_230411, 0874_SW202_230411, 0874_SW207_230411, 0874_SW206_230411, 0874_MW231_230411	0874_MW240_230411, 0874_QC350_230411, 0874_SW205_230411, 0874_QC150_230411, 0874_SW203_230411, 0874_SW204_230411,	11-Apr-2023	22-Apr-2023	08-Oct-2023	✓	24-Apr-2023	08-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW254_230412, 0874_MW236_230412, 0874_MW268_230412,	0874_MW260_230412, 0874_MW257_230412, 0874_MW270_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	24-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW256_230412		12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	34	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	34	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	34	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	34	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2311297**
Amendment : **2**

Client : **AECOM AUSTRALIA PTY LTD** Laboratory : Environmental Division Brisbane
Contact : [REDACTED] Contact : [REDACTED]
Address : [REDACTED] Address : [REDACTED]

E-mail : [REDACTED] E-mail : [REDACTED]
Telephone : [REDACTED] Telephone : [REDACTED]
Facsimile : [REDACTED] Facsimile : [REDACTED]

Project : **QLD_0874_PFASOMP_23** Page : 1 of 4
Order number : **60612487_2.1** Quote number : **ET2021AECOMAU0001 (TV/007/21 v2 - Compass)**

C-O-C number : **50758** QC Level : **NEPM 2013 B3 & ALS QC Standard**
Site : **0874 RAAF 2023 Wet season**
Sampler : [REDACTED]

Dates

Date Samples Received : 18-Apr-2023 08:10 Issue Date : 29-Jun-2023
Client Requested Due Date : 27-Apr-2023 Scheduled Reporting Date : **27-Apr-2023**

Delivery Details

Mode of Delivery : Carrier Security Seal : Intact.
No. of coolers/boxes : 1 Temperature : 4.5°C - Ice present
Receipt Detail : MEDIUM ESKY No. of samples received / analysed : 27 / 27

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***SRN Reissued 29/06/2023: Sampling dates for samples 006, 007, 008, 009, 010, 011, 012, 013,014, 015, 016, 017, 018, 019, 020, 025, 027 were corrected.**
- ***19/04/2023*: SRN has been resent to acknowledge the correction to the quote as per email request by [REDACTED] on the 19/04/2023. For any further information regarding these adjustments please contact client services at [REDACTED]**
- ***17/05/2023*: SRN has been resent to acknowledge the update of client ID as per email request by [REDACTED] on the 17/05/2023. For any further information regarding these adjustments please contact client services at [REDACTED]**
- *Samples were originally received by ALS Townsville on 17/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- **20/04/2023: SRN has been resent to acknowledge change in Sample ID for EB2311297-012 & -015 as requested by [REDACTED]. For any further information regarding these adjustments please contact client services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
EB2311297-006	11-Apr-2023 14:45	0874_SD203_230411	✓	✓
EB2311297-007	11-Apr-2023 13:25	0874_SD205_230411	✓	✓
EB2311297-008	11-Apr-2023 12:35	0874_SD202_230411	✓	✓
EB2311297-009	11-Apr-2023 14:15	0874_SD207_230411	✓	✓
EB2311297-010	11-Apr-2023 13:50	0874_SD206_230411	✓	✓
EB2311297-011	11-Apr-2023 15:05	0874_SD204_230411	✓	✓
EB2311297-012	11-Apr-2023 13:50	0874_QC151_230411	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311297-001	11-Apr-2023 13:14	0874_MW237_230411	✓
EB2311297-002	11-Apr-2023 14:04	0874_MW240_230411	✓
EB2311297-003	11-Apr-2023 15:47	0874_MW266_230411	✓
EB2311297-004	11-Apr-2023 16:42	0874_QC350_230411	✓
EB2311297-005	11-Apr-2023 17:21	0874_QC300_230411	✓
EB2311297-013	11-Apr-2023 13:10	0874_SW205_230411	✓
EB2311297-014	11-Apr-2023 12:30	0874_SW202_230411	✓
EB2311297-015	11-Apr-2023 13:45	0874_QC150_230411	✓
EB2311297-016	11-Apr-2023 14:10	0874_SW207_230411	✓
EB2311297-017	11-Apr-2023 14:40	0874_SW203_230411	✓
EB2311297-018	11-Apr-2023 13:42	0874_SW206_230411	✓
EB2311297-019	11-Apr-2023 15:00	0874_SW204_230411	✓
EB2311297-020	11-Apr-2023 15:45	0874_MW231_230411	✓
EB2311297-021	12-Apr-2023 11:45	0874_MW254_230412	✓
EB2311297-022	12-Apr-2023 15:42	0874_MW260_230412	✓
EB2311297-023	12-Apr-2023 15:44	0874_MW236_230412	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311297-024	12-Apr-2023 10:45	0874_MW257_230412	✓	
EB2311297-025	12-Apr-2023 09:30	0874_MW268_230412	✓	
EB2311297-026	12-Apr-2023 10:10	0874_MW270_230412	✓	
EB2311297-027	12-Apr-2023 09:00	0874_MW256_230412	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

Email
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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email





CERTIFICATE OF ANALYSIS

Work Order : **EB2311298**

Page : 1 of 9

Amendment : **1**

Client : **AECOM AUSTRALIA PTY LTD**

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23

Date Samples Received : 18-Apr-2023 08:10

Order number : 60612487_2.1

Date Analysis Commenced : 18-Apr-2023

C-O-C number : 50884

Issue Date : 29-Jun-2023 22:23

Sampler : [REDACTED]

Site : 0874 RAAF 2023 Wet season

Quote number : TV/007/21 v2 - Compass

No. of samples received : 14

No. of samples analysed : 14



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (29/06/2023): This report has been amended as a result of a request to change sampling dates for samples ALS 008 and ALS 013 as requested by [REDACTED] on 29/6/2023. All analysis results are as per the previous report.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC301_230412	0874_QC152_230413	0874_MW269_230413	0874_MW228_230413	0874_QC302_230413
Sampling date / time					12-Apr-2023 16:35	13-Apr-2023 10:13	13-Apr-2023 10:14	13-Apr-2023 15:00	13-Apr-2023 16:12
Compound	CAS Number	LOR	Unit	EB2311298-001	EB2311298-002	EB2311298-003	EB2311298-004	EB2311298-005	EB2311298-005
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.01	0.01	0.10	0.10	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.01	0.01	0.05	0.05	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.01	0.01	0.10	0.10	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	98.4	91.3	107	107	101
13C8-PFOA	----	0.02	%	95.2	93.0	96.2	93.3	93.3	98.3



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW238_230414	0874_MW259_230414	0874_MW262_230414	0874_MW233_230414	0874_QC303_230414
Sampling date / time				14-Apr-2023 10:12	14-Apr-2023 10:13	14-Apr-2023 09:30	14-Apr-2023 15:00	14-Apr-2023 15:25	
Compound	CAS Number	LOR	Unit	EB2311298-006	EB2311298-007	EB2311298-008	EB2311298-009	EB2311298-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.07	0.19	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.16	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.06	1.69	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.09	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.08	0.38	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.09	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.44	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.08	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.29	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW238_230414	0874_MW259_230414	0874_MW262_230414	0874_MW233_230414	0874_QC303_230414
Sampling date / time					14-Apr-2023 10:12	14-Apr-2023 10:13	14-Apr-2023 09:30	14-Apr-2023 15:00	14-Apr-2023 15:25
Compound	CAS Number	LOR	Unit		EB2311298-006	EB2311298-007	EB2311298-008	EB2311298-009	EB2311298-010
					Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	0.21	3.51	<0.01	<0.01	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.14	2.07	<0.01	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	0.21	3.26	<0.01	<0.01	<0.01
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	102	106	108	102	97.0	
13C8-PFOA	----	0.02	%	97.7	93.0	96.4	94.7	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW252_230414	0874_MW253_230414	0874_MW261_230413	0874_QC500_230414	----
Sampling date / time					14-Apr-2023 14:45	14-Apr-2023 14:30	13-Apr-2023 10:55	14-Apr-2023 09:25	----
Compound	CAS Number	LOR	Unit	EB2311298-011	EB2311298-012	EB2311298-013	EB2311298-014	-----	----
				Result	Result	Result	Result	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.03	0.02	<0.01	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.02	0.02	<0.01	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW252_230414	0874_MW253_230414	0874_MW261_230413	0874_QC500_230414	----
Sampling date / time				14-Apr-2023 14:45	14-Apr-2023 14:30	13-Apr-2023 10:55	14-Apr-2023 09:25	----	
Compound	CAS Number	LOR	Unit	EB2311298-011	EB2311298-012	EB2311298-013	EB2311298-014	-----	
				Result	Result	Result	Result	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.05	0.04	<0.01	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.05	0.04	<0.01	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.05	0.04	<0.01	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	102	108	102	----	
13C8-PFOA	----	0.02	%	95.0	94.5	97.1	96.7	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : EB2311298

Page : 1 of 7

Amendment : 1

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23

Date Samples Received : 18-Apr-2023

Order number : 60612487_2.1

Date Analysis Commenced : 18-Apr-2023

C-O-C number : 50884

Issue Date : 29-Jun-2023

Sampler : [REDACTED]

Site : 0874 RAAF 2023 Wet season

Quote number : TV/007/21 v2 - Compass

No. of samples received : 14

No. of samples analysed : 14



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5000385)									
EB2311297-027	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.07	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311298-010	0874_QC303_230414	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000385)									
EB2311297-027	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5000385) - continued									
EB2311298-010	0874_QC303_230414	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5000385)									
EB2311297-027	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311298-010	0874_QC303_230414	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000385)									
EB2311297-027	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5000385) - continued									
EB2311297-027	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311298-010	0874_QC303_230414	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5000385)									
EB2311297-027	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.16	0.13	20.7	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.09	0.08	11.8	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.16	0.13	20.7	0% - 50%
EB2311298-010	0874_QC303_230414	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000385)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	114	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	117	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	107	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	120	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	112	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	109	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000385)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	109	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	115	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	116	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	98.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000385)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	117	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	109	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	112	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	107	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	128	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000385)								



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000385) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	96.0	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	110	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	116	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	130	64.2	133
EP231P: PFAS Sums (QCLot: 5000385)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5000385)							
EB2311298-001	0874_QC301_230412	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	122	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	113	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	117	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	117	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	128	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5000385)							
EB2311298-001	0874_QC301_230412	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	117	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	112	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	118	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	113	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	117	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	107	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	106	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	119	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	122	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	101	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	105	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000385)					



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5000385) - continued							
EB2311298-001	0874_QC301_230412	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	129	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	118	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	116	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	119	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	93.0	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5000385)							
EB2311298-001	0874_QC301_230412	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	124	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	112	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	102	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	111	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order : EB2311298

Page : 1 of 5

Amendment : 1

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23

Date Samples Received : 18-Apr-2023

Site : 0874 RAAF 2023 Wet season

Issue Date : 29-Jun-2023

Sampler : [REDACTED]

No. of samples received : 14

Order number : 60612487_2.1

No. of samples analysed : 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_QC301_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC152_230413, 0874_MW228_230413, 0874_MW261_230413	0874_MW269_230413, 0874_QC302_230413, 13-Apr-2023	22-Apr-2023	10-Oct-2023	✓	25-Apr-2023	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW238_230414, 0874_MW262_230414, 0874_QC303_230414, 0874_MW253_230414,	0874_MW259_230414, 0874_MW233_230414, 0874_MW252_230414, 0874_QC500_230414, 14-Apr-2023	22-Apr-2023	11-Oct-2023	✓	25-Apr-2023	11-Oct-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids							
HDPE (no PTFE) (EP231X) 0874_QC301_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC152_230413, 0874_MW228_230413, 0874_MW261_230413	0874_MW269_230413, 0874_QC302_230413, 13-Apr-2023	22-Apr-2023	10-Oct-2023	✓	25-Apr-2023	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW238_230414, 0874_MW262_230414, 0874_QC303_230414, 0874_MW253_230414,	0874_MW259_230414, 0874_MW233_230414, 0874_MW252_230414, 0874_QC500_230414, 14-Apr-2023	22-Apr-2023	11-Oct-2023	✓	25-Apr-2023	11-Oct-2023	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231C: Perfluoroalkyl Sulfonamides							
HDPE (no PTFE) (EP231X) 0874_QC301_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC152_230413, 0874_MW228_230413, 0874_MW261_230413	0874_MW269_230413, 0874_QC302_230413, 13-Apr-2023	22-Apr-2023	10-Oct-2023	✓	25-Apr-2023	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW238_230414, 0874_MW262_230414, 0874_QC303_230414, 0874_MW253_230414,	0874_MW259_230414, 0874_MW233_230414, 0874_MW252_230414, 0874_QC500_230414, 14-Apr-2023	22-Apr-2023	11-Oct-2023	✓	25-Apr-2023	11-Oct-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_QC301_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC152_230413, 0874_MW228_230413, 0874_MW261_230413	0874_MW269_230413, 0874_QC302_230413, 13-Apr-2023	22-Apr-2023	10-Oct-2023	✓	25-Apr-2023	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW238_230414, 0874_MW262_230414, 0874_QC303_230414, 0874_MW253_230414,	0874_MW259_230414, 0874_MW233_230414, 0874_MW252_230414, 0874_QC500_230414, 14-Apr-2023	22-Apr-2023	11-Oct-2023	✓	25-Apr-2023	11-Oct-2023	✓
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0874_QC301_230412	12-Apr-2023	22-Apr-2023	09-Oct-2023	✓	25-Apr-2023	09-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC152_230413, 0874_MW228_230413, 0874_MW261_230413	0874_MW269_230413, 0874_QC302_230413, 13-Apr-2023	22-Apr-2023	10-Oct-2023	✓	25-Apr-2023	10-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW238_230414, 0874_MW262_230414, 0874_QC303_230414, 0874_MW253_230414,	0874_MW259_230414, 0874_MW233_230414, 0874_MW252_230414, 0874_QC500_230414, 14-Apr-2023	22-Apr-2023	11-Oct-2023	✓	25-Apr-2023	11-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	15	6.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EB2311298**
Amendment : **1**

Client : **AECOM AUSTRALIA PTY LTD** Laboratory : Environmental Division Brisbane
Contact : [REDACTED] Contact : [REDACTED]
Address : [REDACTED] Address : [REDACTED]

E-mail : [REDACTED] E-mail : [REDACTED]
Telephone : [REDACTED] Telephone : [REDACTED]
Facsimile : [REDACTED] Facsimile : [REDACTED]

Project : **QLD_0874_PFASOMP_23** Page : 1 of 3
Order number : **60612487_2.1** Quote number : **ET2021AECOMAU0001 (TV/007/21 v2 - Compass)**

C-O-C number : **50884** QC Level : **NEPM 2013 B3 & ALS QC Standard**
Site : **0874 RAAF 2023 Wet season**
Sampler : [REDACTED]

Dates

Date Samples Received : 18-Apr-2023 08:10 Issue Date : 29-Jun-2023
Client Requested Due Date : 27-Apr-2023 Scheduled Reporting Date : **27-Apr-2023**

Delivery Details

Mode of Delivery : Carrier Security Seal : Intact.
No. of coolers/boxes : 1 Temperature : 4.5°C - Ice present
Receipt Detail : MEDIUM ESKY No. of samples received / analysed : 14 / 14

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***SRN Reissued 29/06/2023 due to the sampling dates for samples 008 and 013 being corrected as requested by [REDACTED]**
- ***19/04/2023*: SRN has been resent to acknowledge the correction to quote as per email request by [REDACTED] on the 19/04/2023. For any further information regarding these adjustments please contact client services at [REDACTED]**
- *Samples were originally received by ALS Townsville on 17/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- **20/04/2023: SRN has been resent to acknowledge change of sample ID for EB2311298-002. For any further information regarding these adjustments please contact client services at [REDACTED]**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: WATER

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311298-001	12-Apr-2023 16:35	0874_QC301_230412	✓
EB2311298-002	13-Apr-2023 10:13	0874_QC152_230413	✓
EB2311298-003	13-Apr-2023 10:14	0874_MW269_230413	✓
EB2311298-004	13-Apr-2023 15:00	0874_MW228_230413	✓
EB2311298-005	13-Apr-2023 16:12	0874_QC302_230413	✓
EB2311298-006	14-Apr-2023 10:12	0874_MW238_230414	✓
EB2311298-007	14-Apr-2023 10:13	0874_MW259_230414	✓
EB2311298-008	14-Apr-2023 09:30	0874_MW262_230414	✓
EB2311298-009	14-Apr-2023 15:00	0874_MW233_230414	✓
EB2311298-010	14-Apr-2023 15:25	0874_QC303_230414	✓
EB2311298-011	14-Apr-2023 14:45	0874_MW252_230414	✓
EB2311298-012	14-Apr-2023 14:30	0874_MW253_230414	✓
EB2311298-013	13-Apr-2023 10:55	0874_MW261_230413	✓
EB2311298-014	14-Apr-2023 09:25	0874_QC500_230414	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

Email

Email

Email

Email

Email

Email

Email

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

Email

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DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email





CERTIFICATE OF ANALYSIS

Work Order : **EB2311697**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Project : **QLD_0874_PFSOMP_23**
Order number : **60612487_2.1**
C-O-C number : **51080**
Sampler : [REDACTED]
Site : **0874 RAAF TSV**
Quote number : **TV/007/21 v2 - Compass**
No. of samples received : **58**
No. of samples analysed : **58**

Page : 1 of 27
Laboratory : Environmental Division Brisbane
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 21-Apr-2023 08:00
Date Analysis Commenced : 21-Apr-2023
Issue Date : 04-May-2023 12:30



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. The LOR values of particular analytes have been further raised due to additional matrix interferences.
- EP231X PFAS: The LORs for particular analytes for particular samples have been raised due to matrix interference.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230417	0874_SW014_230417	0874_SW112_230417	0874_SW010_230417	0874_QC100_230417
Sampling date / time					17-Apr-2023 13:05	17-Apr-2023 14:32	17-Apr-2023 14:06	17-Apr-2023 15:07	17-Apr-2023 15:09
Compound	CAS Number	LOR	Unit	EB2311697-001	EB2311697-002	EB2311697-003	EB2311697-004	EB2311697-005	EB2311697-005
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.03	0.02	0.43	1.53	1.58	1.58
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.02	0.24	0.90	1.00	1.00
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.02	0.43	1.44	1.50	1.50
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	124	111	104	121	121
13C8-PFOA	----	0.02	%	115	116	115	114	118	118



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_230417	0874_SW123_230417	0874_SW125_230417	0874_SW016_230417	0874_SW131_230417
Sampling date / time					17-Apr-2023 15:28	17-Apr-2023 15:43	17-Apr-2023 16:01	17-Apr-2023 16:16	17-Apr-2023 16:27
Compound	CAS Number	LOR	Unit	EB2311697-006	EB2311697-007	EB2311697-008	EB2311697-009	EB2311697-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.41	0.44	7.19	0.16	0.14	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.48	0.58	5.35	0.14	0.18	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.46	3.67	26.0	1.28	1.14	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.17	0.41	2.20	0.08	0.07	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.74	4.67	45.8	1.35	1.21	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.09	0.03	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	2.0	0.7	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.25	0.21	3.30	0.11	0.07	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.81	0.65	11.1	0.31	0.28	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.19	0.08	0.86	0.03	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.38	0.20	0.98	0.06	0.07	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_230417	0874_SW123_230417	0874_SW125_230417	0874_SW016_230417	0874_SW131_230417
Sampling date / time					17-Apr-2023 15:28	17-Apr-2023 15:43	17-Apr-2023 16:01	17-Apr-2023 16:16	17-Apr-2023 16:27
Compound	CAS Number	LOR	Unit	EB2311697-006	EB2311697-007	EB2311697-008	EB2311697-009	EB2311697-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	9.99	11.0	105	4.25	3.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	7.20	8.34	71.8	2.63	2.35	
Sum of PFAS (WA DER List)	----	0.01	µg/L	9.34	10.0	97.2	4.00	2.95	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	140	135	138	125	106	
13C8-PFOA	----	0.02	%	111	114	112	110	108	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW102_230417	0874_SW017_230417	0874_QC101_230417	0874_QC300_230417	0874_SW017_230418
Sampling date / time					17-Apr-2023 16:45	17-Apr-2023 17:13	17-Apr-2023 17:14	17-Apr-2023 17:20	18-Apr-2023 14:11
Compound	CAS Number	LOR	Unit	EB2311697-011	EB2311697-012	EB2311697-013	EB2311697-014	EB2311697-015	EB2311697-015
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2.35	0.01	0.03	<0.01	0.09	0.09
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.59	0.01	0.03	<0.01	0.06	0.06
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.13	0.01	0.03	<0.01	0.09	0.09
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	110	117	129	132	132
13C8-PFOA	----	0.02	%	114	111	108	110	109	109



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230418	0874_SW129_230418	0874_SW014_230418	0874_SW010_230418	0874_SW121_230418
Sampling date / time					18-Apr-2023 13:06	18-Apr-2023 11:32	18-Apr-2023 13:59	18-Apr-2023 14:28	18-Apr-2023 12:14
Compound	CAS Number	LOR	Unit	EB2311697-016	EB2311697-017	EB2311697-018	EB2311697-019	EB2311697-020	EB2311697-020
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.12	0.48	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.10	0.42	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	<0.01	<0.01	0.53	2.36	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.03	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.02	1.06	0.90	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.18	0.15	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.18	0.48	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.10	0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.11	0.06	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230418	0874_SW129_230418	0874_SW014_230418	0874_SW010_230418	0874_SW121_230418
Sampling date / time					18-Apr-2023 13:06	18-Apr-2023 11:32	18-Apr-2023 13:59	18-Apr-2023 14:28	18-Apr-2023 12:14
Compound	CAS Number	LOR	Unit	EB2311697-016	EB2311697-017	EB2311697-018	EB2311697-019	EB2311697-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	0.08	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.01	<0.01	0.02	2.63	5.15	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	<0.01	0.02	1.59	3.26	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.01	<0.01	0.02	2.46	4.68	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	133	121	136	118	106	
13C8-PFOA	----	0.02	%	111	115	114	112	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_230418	0874_SW123_230418	0874_SW125_230418	0874_SW112_230418	0874_SW016_230418
Sampling date / time				18-Apr-2023 14:40	18-Apr-2023 14:54	18-Apr-2023 15:09	18-Apr-2023 13:33	18-Apr-2023 15:21	
Compound	CAS Number	LOR	Unit	EB2311697-021	EB2311697-022	EB2311697-023	EB2311697-024	EB2311697-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.15	0.46	3.68	<0.02	0.22	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.26	0.47	4.28	<0.02	0.18	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	6.00	3.00	27.5	0.10	2.45	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.56	0.30	3.48	<0.02	0.12	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	17.0	4.99	50.1	0.15	1.53	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.06	<0.02	<0.08	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.1	0.9	<0.1	<0.8	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.61	0.17	1.75	0.02	0.16	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.88	0.81	8.43	0.04	0.56	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.46	0.08	0.87	<0.02	0.06	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.02	0.18	1.23	0.01	0.10	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.03	<0.02	0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.10	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW132_230418	0874_SW123_230418	0874_SW125_230418	0874_SW112_230418	0874_SW016_230418
Sampling date / time				18-Apr-2023 14:40	18-Apr-2023 14:54	18-Apr-2023 15:09	18-Apr-2023 13:33	18-Apr-2023 15:21	
Compound	CAS Number	LOR	Unit	EB2311697-021	EB2311697-022	EB2311697-023	EB2311697-024	EB2311697-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	31.4	10.6	102	0.32	5.38	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	23.0	7.99	77.6	0.25	3.98	
Sum of PFAS (WA DER List)	----	0.01	µg/L	29.5	9.79	94.5	0.32	5.08	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	104	103	106	97.8	
13C8-PFOA	----	0.02	%	103	103	100	104	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_230418	0874_SW102_230418	0874_SW117_230418	0874_SW118_230418	0874_SW115_230418
Sampling date / time					18-Apr-2023 15:33	18-Apr-2023 15:51	18-Apr-2023 09:33	18-Apr-2023 09:56	18-Apr-2023 10:12
Compound	CAS Number	LOR	Unit	EB2311697-026	EB2311697-027	EB2311697-028	EB2311697-029	EB2311697-030	EB2311697-030
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	0.33	0.36	0.19	0.08	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.21	0.26	0.37	0.18	0.07	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.40	1.30	1.92	1.01	0.46	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	0.05	0.11	0.05	0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.64	1.05	2.96	1.13	0.50	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.10	0.09	0.18	0.08	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.49	0.42	0.91	0.38	0.16	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	<0.04	0.16	0.06	0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	0.04	0.28	0.10	0.04	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW131_230418	0874_SW102_230418	0874_SW117_230418	0874_SW118_230418	0874_SW115_230418
Sampling date / time					18-Apr-2023 15:33	18-Apr-2023 15:51	18-Apr-2023 09:33	18-Apr-2023 09:56	18-Apr-2023 10:12
Compound	CAS Number	LOR	Unit	EB2311697-026	EB2311697-027	EB2311697-028	EB2311697-029	EB2311697-030	EB2311697-030
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.24	3.54	7.35	3.18	1.38	1.38
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.04	2.35	4.88	2.14	0.96	0.96
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.96	3.23	6.87	2.95	1.29	1.29
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	102	100	102	100	100
13C8-PFOA	----	0.02	%	99.2	100	100	103	102	102



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_230418	0874_SW109_230418	0874_SW108_230418	0874_QC102_230418	0874_QC103_230418
Sampling date / time					18-Apr-2023 10:30	18-Apr-2023 10:50	18-Apr-2023 11:02	18-Apr-2023 13:07	18-Apr-2023 15:35
Compound	CAS Number	LOR	Unit	EB2311697-031	EB2311697-032	EB2311697-033	EB2311697-034	EB2311697-035	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.04	0.18	<0.02	0.20	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.03	0.15	<0.02	0.21	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.27	0.20	1.04	<0.01	1.42	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.04	<0.02	0.08	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.24	0.60	<0.01	1.75	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	<0.02	0.05	<0.02	0.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.09	0.07	0.29	<0.02	0.51	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.02	<0.02	0.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.04	<0.01	0.08	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW116_230418	0874_SW109_230418	0874_SW108_230418	0874_QC102_230418	0874_QC103_230418
Sampling date / time				18-Apr-2023 10:30	18-Apr-2023 10:50	18-Apr-2023 11:02	18-Apr-2023 13:07	18-Apr-2023 15:35	
Compound	CAS Number	LOR	Unit	EB2311697-031	EB2311697-032	EB2311697-033	EB2311697-034	EB2311697-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.77	0.60	2.41	<0.01	4.40	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.55	0.44	1.64	<0.01	3.17	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.73	0.57	2.22	<0.01	4.11	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	110	97.4	97.5	106	
13C8-PFOA	----	0.02	%	101	104	100	101	96.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC301_230418	0874_SW129_230419	0874_SW127_230419	0874_SW017_230419	0874_SW014_230419
Sampling date / time					18-Apr-2023 15:56	19-Apr-2023 10:05	19-Apr-2023 09:48	19-Apr-2023 11:28	19-Apr-2023 11:06
Compound	CAS Number	LOR	Unit	EB2311697-036	EB2311697-037	EB2311697-038	EB2311697-039	EB2311697-040	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.04	<0.04	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	<0.01	0.02	0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.02	<0.01	0.05	0.03	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC301_230418	0874_SW129_230419	0874_SW127_230419	0874_SW017_230419	0874_SW014_230419
Sampling date / time					18-Apr-2023 15:56	19-Apr-2023 10:05	19-Apr-2023 09:48	19-Apr-2023 11:28	19-Apr-2023 11:06
Compound	CAS Number	LOR	Unit	EB2311697-036	EB2311697-037	EB2311697-038	EB2311697-039	EB2311697-040	EB2311697-040
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.04	0.07	0.04	0.04
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	0.07	0.04	0.04
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.04	0.07	0.04	0.04
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	98.7	101	107	106	106
13C8-PFOA	----	0.02	%	102	104	102	99.3	102	102



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_230419	0874_SW123_230419	0874_SW121_230419	0874_SW132_230419	0874_SW125_230419
Sampling date / time					19-Apr-2023 12:00	19-Apr-2023 12:35	19-Apr-2023 11:44	19-Apr-2023 12:14	19-Apr-2023 12:47
Compound	CAS Number	LOR	Unit	EB2311697-041	EB2311697-042	EB2311697-043	EB2311697-044	EB2311697-045	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.30	0.57	0.59	2.62	9.45	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.12	0.60	0.50	3.02	9.70	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.84	3.54	2.54	16.6	56.3	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.34	0.05	1.04	3.30	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.94	5.54	0.74	24.0	176	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.2	1.0	<2.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.19	0.20	0.20	1.40	3.95	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.32	0.95	0.60	7.05	18.8	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	0.10	0.06	1.24	2.05	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.13	0.21	0.07	2.48	2.30	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.05	<0.02	<0.02	<0.10	<0.50	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<1.25	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<1.25	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<1.25	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW010_230419	0874_SW123_230419	0874_SW121_230419	0874_SW132_230419	0874_SW125_230419
Sampling date / time					19-Apr-2023 12:00	19-Apr-2023 12:35	19-Apr-2023 11:44	19-Apr-2023 12:14	19-Apr-2023 12:47
Compound	CAS Number	LOR	Unit	EB2311697-041	EB2311697-042	EB2311697-043	EB2311697-044	EB2311697-045	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<1.25	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.25	<1.25	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.10	<0.50	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.50	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.13	<0.05	<0.05	<0.10	<0.50	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.50	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.10	<0.50	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.97	12.2	5.55	60.4	282	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.78	9.08	3.28	40.6	232	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.75	11.2	5.00	56.4	269	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	104	102	105	104	
13C8-PFOA	----	0.02	%	97.6	98.3	99.8	97.1	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_230419	0874_SW016_230419	0874_SW131_230419	0874_SW102_230419	0874_SW117_230419
Sampling date / time					19-Apr-2023 10:39	19-Apr-2023 13:01	19-Apr-2023 13:12	19-Apr-2023 13:30	19-Apr-2023 14:39
Compound	CAS Number	LOR	Unit	EB2311697-046	EB2311697-047	EB2311697-048	EB2311697-049	EB2311697-050	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.68	0.12	0.28	1.97	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.63	0.14	0.25	2.10	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.12	8.78	0.91	1.46	10.9	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.49	0.05	0.05	0.70	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.14	5.09	1.05	0.88	15.1	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.5	<0.1	<0.1	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.39	0.06	0.09	1.00	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.04	1.89	0.29	0.39	4.72	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.22	0.03	0.04	0.86	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.38	0.05	0.04	1.68	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.25	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.10	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.25	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.25	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW112_230419	0874_SW016_230419	0874_SW131_230419	0874_SW102_230419	0874_SW117_230419
Sampling date / time					19-Apr-2023 10:39	19-Apr-2023 13:01	19-Apr-2023 13:12	19-Apr-2023 13:30	19-Apr-2023 14:39
Compound	CAS Number	LOR	Unit	EB2311697-046	EB2311697-047	EB2311697-048	EB2311697-049	EB2311697-050	EB2311697-050
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	<0.25
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.05	<0.05	<0.25
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.10
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.10
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.10
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.10
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.10
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.10
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.34	18.6	2.70	3.48	39.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.26	13.9	1.96	2.34	26.0	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.34	17.4	2.51	3.18	36.8	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	109	104	106	100	110	
13C8-PFOA	----	0.02	%	100	100	101	95.1	101	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW118_230419	0874_SW115_230419	0874_SW116_230419	0874_SW109_230419	0874_SW108_230419
Sampling date / time				19-Apr-2023 14:51	19-Apr-2023 15:05	19-Apr-2023 15:20	19-Apr-2023 15:32	19-Apr-2023 15:43	
Compound	CAS Number	LOR	Unit	EB2311697-051	EB2311697-052	EB2311697-053	EB2311697-054	EB2311697-055	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.34	0.26	0.13	0.12	0.23	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.35	0.24	0.13	0.12	0.20	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.93	1.51	0.73	0.72	1.38	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.06	0.03	0.03	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.23	1.22	0.56	0.54	0.81	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.15	0.09	0.04	0.04	0.06	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.76	0.48	0.23	0.22	0.35	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	0.06	0.03	0.03	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.21	0.09	0.04	0.04	0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW118_230419	0874_SW115_230419	0874_SW116_230419	0874_SW109_230419	0874_SW108_230419
Sampling date / time				19-Apr-2023 14:51	19-Apr-2023 15:05	19-Apr-2023 15:20	19-Apr-2023 15:32	19-Apr-2023 15:43	
Compound	CAS Number	LOR	Unit	EB2311697-051	EB2311697-052	EB2311697-053	EB2311697-054	EB2311697-055	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.19	4.01	1.92	1.86	3.16	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.16	2.73	1.29	1.26	2.19	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.74	3.71	1.76	1.71	2.91	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	101	104	108	106	
13C8-PFOA	----	0.02	%	101	103	99.0	97.3	100	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_230419	0874_QC104_230419	0874_QC105_230419	----	----
Sampling date / time				19-Apr-2023 15:47	19-Apr-2023 12:37	19-Apr-2023 15:06	----	----	
Compound	CAS Number	LOR	Unit	EB2311697-056	EB2311697-057	EB2311697-058	-----	-----	
				Result	Result	Result	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.61	0.26	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.61	0.24	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	3.57	1.46	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.31	0.06	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	4.76	1.25	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	<0.1	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.20	0.09	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.96	0.46	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.10	0.07	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.21	0.10	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.05	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.05	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC302_230419	0874_QC104_230419	0874_QC105_230419	----	----
Sampling date / time				19-Apr-2023 15:47	19-Apr-2023 12:37	19-Apr-2023 15:06	----	----	
Compound	CAS Number	LOR	Unit	EB2311697-056	EB2311697-057	EB2311697-058	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.05	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.05	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	11.4	3.99	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	8.33	2.71	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	10.5	3.69	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	114	105	----	----	
13C8-PFOA	----	0.02	%	104	98.7	101	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133



QUALITY CONTROL REPORT

Work Order : **EB2311697**

Page : 1 of 16

Client : **AECOM AUSTRALIA PTY LTD**

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23

Date Samples Received : 21-Apr-2023

Order number : 60612487_2.1

Date Analysis Commenced : 21-Apr-2023

C-O-C number : 51080

Issue Date : 04-May-2023

Sampler : [REDACTED]

Site : 0874 RAAF TSV

Quote number : TV/007/21 v2 - Compass

No. of samples received : 58

No. of samples analysed : 58



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories

Position

Accreditation Category

[REDACTED]

Senior Organic Chemist

Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010621)									
EB2311697-001	0874_SW127_230417	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	0.03	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311697-011	0874_SW102_230417	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.91	1.00	9.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.68	0.80	17.2	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.19	0.19	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.18	0.19	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010622)									
EB2311697-020	0874_SW121_230418	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.36	2.20	6.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.90	0.84	6.9	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.48	0.48	0.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.42	0.40	5.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EB2311697-030	0874_SW115_230418	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.46	0.47	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.50	0.52	3.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.08	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010622) - continued											
EB2311697-030	0874_SW115_230418	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5010623)											
EB2311697-039	0874_SW017_230419	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.04	0.0	No Limit		
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.04	<0.04	0.0	No Limit		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EB2311697-049	0874_SW102_230419	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.46	1.38	5.2	0% - 20%		
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.88	0.90	2.6	0% - 20%		
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.28	0.30	6.8	0% - 50%		
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.25	0.24	0.0	0% - 50%		
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.04	0.0	No Limit		
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010621)											
EB2311697-001	0874_SW127_230417	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		EB2311697-011	0874_SW102_230417	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.07	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	0.22	0.24	6.1	0% - 50%		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	0.03	0.03	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010622)											
EB2311697-020	0874_SW121_230418	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	0.06	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.15	0.14	0.0	No Limit		



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010622) - continued									
EB2311697-020	0874_SW121_230418	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.48	0.49	3.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.0	No Limit
EB2311697-030	0874_SW115_230418	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.03	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.16	0.15	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010623)									
EB2311697-039	0874_SW017_230419	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EB2311697-049	0874_SW102_230419	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.09	0.09	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.39	0.39	0.0	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5010623) - continued									
EB2311697-049	0874_SW102_230419	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010621)									
EB2311697-001	0874_SW127_230417	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-011	0874_SW102_230417	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010622)									
EB2311697-020	0874_SW121_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010622) - continued									
EB2311697-020	0874_SW121_230418	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-030	0874_SW115_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010623)									
EB2311697-039	0874_SW017_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-049	0874_SW102_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5010623) - continued									
EB2311697-049	0874_SW102_230419	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010621)									
EB2311697-001	0874_SW127_230417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-011	0874_SW102_230417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010622)									
EB2311697-020	0874_SW121_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-030	0874_SW115_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010623)									
EB2311697-039	0874_SW017_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5010623) - continued									
EB2311697-039	0874_SW017_230419	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EB2311697-049	0874_SW102_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5010621)									
EB2311697-001	0874_SW127_230417	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.04	28.6	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.04	28.6	No Limit
EB2311697-011	0874_SW102_230417	EP231X: Sum of PFAS	----	0.01	µg/L	2.35	2.60	10.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.59	1.80	12.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.13	2.37	10.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 5010622)									
EB2311697-020	0874_SW121_230418	EP231X: Sum of PFAS	----	0.01	µg/L	5.15	4.91	4.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.26	3.04	7.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.68	4.46	4.8	0% - 20%
EB2311697-030	0874_SW115_230418	EP231X: Sum of PFAS	----	0.01	µg/L	1.38	1.40	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.96	0.99	3.1	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.29	1.30	0.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 5010623)									
EB2311697-039	0874_SW017_230419	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.07	0.06	15.4	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.06	15.4	No Limit
EB2311697-049	0874_SW102_230419	EP231X: Sum of PFAS	----	0.01	µg/L	3.48	3.42	1.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.34	2.28	2.6	0% - 20%

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 Work Order : EB2311697
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_23



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 5010623) - continued									
EB2311697-049	0874_SW102_230419	EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.18	3.14	1.3	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010621)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	120	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	118	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	106	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	98.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010622)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	95.6	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	103	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	96.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	97.3	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	93.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	92.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010623)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	106	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	113	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	105	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	113	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	110	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010621)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	98.8	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	110	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	113	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	110	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	113	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	134



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010621) - continued									
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	111	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010622)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	94.4	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	95.8	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	97.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.0	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	96.4	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	99.4	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	95.0	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	93.0	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	105	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010623)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	104	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	102	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	101	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	105	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	96.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	107	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010621)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	90.6	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	82.3	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	111	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010621) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	114	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	99.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010622)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.0	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	99.0	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	102	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	93.0	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	103	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	106	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	102	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010623)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	107	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	104	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	109	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	104	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	115	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	110	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	112	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010621)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	109	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	97.3	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	84.6	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010622)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	90.9	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	90.8	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	102	67.0	138	



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010622) - continued								
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	92.1	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010623)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	106	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	112	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	98.3	64.2	133
EP231P: PFAS Sums (QCLot: 5010621)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5010622)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5010623)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010621)							
EB2311697-002	0874_SW014_230417	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	105	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	127	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	122	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	121	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	107	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	92.3	53.0	142



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010622)							
EB2311697-021	0874_SW132_230418	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	129	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	120	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5010623)							
EB2311697-040	0874_SW014_230419	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	127	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	127	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	110	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	108	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	100	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010621)							
EB2311697-002	0874_SW014_230417	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	100	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	95.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	94.0	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	104	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	113	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	117	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	107	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	106	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	114	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	114	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	108	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010622)					
EB2311697-021	0874_SW132_230418	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	101	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	104	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	108	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	100	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	106	71.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
Laboratory sample ID		Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010622) - continued							
EB2311697-021	0874_SW132_230418	EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	102	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	106	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	106	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	113	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5010623)							
EB2311697-040	0874_SW014_230419	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	109	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	109	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	112	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	106	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	105	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	114	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	108	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	103	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	111	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	113	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	117	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010621)					
EB2311697-002	0874_SW014_230417	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	116	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	104	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	91.8	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	107	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	115	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010622)							
EB2311697-021	0874_SW132_230418	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	108	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	115	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	111	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	119	70.0	130



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010622) - continued							
EB2311697-021	0874_SW132_230418	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	105	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	103	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5010623)							
EB2311697-040	0874_SW014_230419	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	112	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	118	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	106	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	119	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	130	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	114	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	122	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010621)							
EB2311697-002	0874_SW014_230417	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	101	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	132	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	106	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	95.0	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010622)							
EB2311697-021	0874_SW132_230418	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	107	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	94.6	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	114	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	114	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5010623)							
EB2311697-040	0874_SW014_230419	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	114	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	112	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	86.1	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2311697	Page	: 1 of 9
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Brisbane
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23	Date Samples Received	: 21-Apr-2023
Site	: 0874 RAAF TSV	Issue Date	: 04-May-2023
Sampler	: [REDACTED]	No. of samples received	: 58
Order number	: 60612487_2.1	No. of samples analysed	: 58

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311697--021	0874_SW132_230418	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311697--021	0874_SW132_230418	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311697--021	0874_SW132_230418	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2311697--021	0874_SW132_230418	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311697--021	0874_SW132_230418	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	EB2311697--021	0874_SW132_230418	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
Container / Client Sample ID(s)							



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_230417, 0874_SW112_230417, 0874_QC100_230417, 0874_SW123_230417, 0874_SW016_230417, 0874_SW102_230417, 0874_QC101_230417,	0874_SW014_230417, 0874_SW010_230417, 0874_SW132_230417, 0874_SW125_230417, 0874_SW131_230417, 0874_SW017_230417, 0874_QC300_230417	17-Apr-2023	27-Apr-2023	14-Oct-2023	✓	28-Apr-2023	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230418, 0874_SW123_230418, 0874_SW112_230418, 0874_SW131_230418, 0874_SW117_230418, 0874_SW115_230418, 0874_SW109_230418, 0874_QC102_230418, 0874_QC301_230418	0874_SW132_230418, 0874_SW125_230418, 0874_SW016_230418, 0874_SW102_230418, 0874_SW118_230418, 0874_SW116_230418, 0874_SW108_230418, 0874_QC103_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	02-May-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW017_230418, 0874_SW129_230418, 0874_SW010_230418	0874_SW127_230418, 0874_SW014_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	28-Apr-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230419, 0874_SW017_230419, 0874_SW010_230419, 0874_SW121_230419, 0874_SW125_230419, 0874_SW016_230419, 0874_SW102_230419, 0874_SW118_230419, 0874_SW116_230419, 0874_SW108_230419, 0874_QC104_230419,	0874_SW127_230419, 0874_SW014_230419, 0874_SW123_230419, 0874_SW132_230419, 0874_SW112_230419, 0874_SW131_230419, 0874_SW117_230419, 0874_SW115_230419, 0874_SW109_230419, 0874_QC302_230419, 0874_QC105_230419	19-Apr-2023	27-Apr-2023	16-Oct-2023	✓	02-May-2023	16-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_230417, 0874_SW112_230417, 0874_QC100_230417, 0874_SW123_230417, 0874_SW016_230417, 0874_SW102_230417, 0874_QC101_230417,	0874_SW014_230417, 0874_SW010_230417, 0874_SW132_230417, 0874_SW125_230417, 0874_SW131_230417, 0874_SW017_230417, 0874_QC300_230417	17-Apr-2023	27-Apr-2023	14-Oct-2023	✓	28-Apr-2023	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230418, 0874_SW123_230418, 0874_SW112_230418, 0874_SW131_230418, 0874_SW117_230418, 0874_SW115_230418, 0874_SW109_230418, 0874_QC102_230418, 0874_QC301_230418	0874_SW132_230418, 0874_SW125_230418, 0874_SW016_230418, 0874_SW102_230418, 0874_SW118_230418, 0874_SW116_230418, 0874_SW108_230418, 0874_QC103_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	02-May-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW017_230418, 0874_SW129_230418, 0874_SW010_230418	0874_SW127_230418, 0874_SW014_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	28-Apr-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230419, 0874_SW017_230419, 0874_SW010_230419, 0874_SW121_230419, 0874_SW125_230419, 0874_SW016_230419, 0874_SW102_230419, 0874_SW118_230419, 0874_SW116_230419, 0874_SW108_230419, 0874_QC104_230419,	0874_SW127_230419, 0874_SW014_230419, 0874_SW123_230419, 0874_SW132_230419, 0874_SW112_230419, 0874_SW131_230419, 0874_SW117_230419, 0874_SW115_230419, 0874_SW109_230419, 0874_QC302_230419, 0874_QC105_230419	19-Apr-2023	27-Apr-2023	16-Oct-2023	✓	02-May-2023	16-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW127_230417, 0874_SW112_230417, 0874_QC100_230417, 0874_SW123_230417, 0874_SW016_230417, 0874_SW102_230417, 0874_QC101_230417,	0874_SW014_230417, 0874_SW010_230417, 0874_SW132_230417, 0874_SW125_230417, 0874_SW131_230417, 0874_SW017_230417, 0874_QC300_230417	17-Apr-2023	27-Apr-2023	14-Oct-2023	✓	28-Apr-2023	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230418, 0874_SW123_230418, 0874_SW112_230418, 0874_SW131_230418, 0874_SW117_230418, 0874_SW115_230418, 0874_SW109_230418, 0874_QC102_230418, 0874_QC301_230418	0874_SW132_230418, 0874_SW125_230418, 0874_SW016_230418, 0874_SW102_230418, 0874_SW118_230418, 0874_SW116_230418, 0874_SW108_230418, 0874_QC103_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	02-May-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW017_230418, 0874_SW129_230418, 0874_SW010_230418	0874_SW127_230418, 0874_SW014_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	28-Apr-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230419, 0874_SW017_230419, 0874_SW010_230419, 0874_SW121_230419, 0874_SW125_230419, 0874_SW016_230419, 0874_SW102_230419, 0874_SW118_230419, 0874_SW116_230419, 0874_SW108_230419, 0874_QC104_230419,	0874_SW127_230419, 0874_SW014_230419, 0874_SW123_230419, 0874_SW132_230419, 0874_SW112_230419, 0874_SW131_230419, 0874_SW117_230419, 0874_SW115_230419, 0874_SW109_230419, 0874_QC302_230419, 0874_QC105_230419	19-Apr-2023	27-Apr-2023	16-Oct-2023	✓	02-May-2023	16-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_230417, 0874_SW112_230417, 0874_QC100_230417, 0874_SW123_230417, 0874_SW016_230417, 0874_SW102_230417, 0874_QC101_230417,	0874_SW014_230417, 0874_SW010_230417, 0874_SW132_230417, 0874_SW125_230417, 0874_SW131_230417, 0874_SW017_230417, 0874_QC300_230417	17-Apr-2023	27-Apr-2023	14-Oct-2023	✓	28-Apr-2023	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230418, 0874_SW123_230418, 0874_SW112_230418, 0874_SW131_230418, 0874_SW117_230418, 0874_SW115_230418, 0874_SW109_230418, 0874_QC102_230418, 0874_QC301_230418	0874_SW132_230418, 0874_SW125_230418, 0874_SW016_230418, 0874_SW102_230418, 0874_SW118_230418, 0874_SW116_230418, 0874_SW108_230418, 0874_QC103_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	02-May-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW017_230418, 0874_SW129_230418, 0874_SW010_230418	0874_SW127_230418, 0874_SW014_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	28-Apr-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230419, 0874_SW017_230419, 0874_SW010_230419, 0874_SW121_230419, 0874_SW125_230419, 0874_SW016_230419, 0874_SW102_230419, 0874_SW118_230419, 0874_SW116_230419, 0874_SW108_230419, 0874_QC104_230419,	0874_SW127_230419, 0874_SW014_230419, 0874_SW123_230419, 0874_SW132_230419, 0874_SW112_230419, 0874_SW131_230419, 0874_SW117_230419, 0874_SW115_230419, 0874_SW109_230419, 0874_QC302_230419, 0874_QC105_230419	19-Apr-2023	27-Apr-2023	16-Oct-2023	✓	02-May-2023	16-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW127_230417, 0874_SW112_230417, 0874_QC100_230417, 0874_SW123_230417, 0874_SW016_230417, 0874_SW102_230417, 0874_QC101_230417,	0874_SW014_230417, 0874_SW010_230417, 0874_SW132_230417, 0874_SW125_230417, 0874_SW131_230417, 0874_SW017_230417, 0874_QC300_230417	17-Apr-2023	27-Apr-2023	14-Oct-2023	✓	28-Apr-2023	14-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230418, 0874_SW123_230418, 0874_SW112_230418, 0874_SW131_230418, 0874_SW117_230418, 0874_SW115_230418, 0874_SW109_230418, 0874_QC102_230418, 0874_QC301_230418	0874_SW132_230418, 0874_SW125_230418, 0874_SW016_230418, 0874_SW102_230418, 0874_SW118_230418, 0874_SW116_230418, 0874_SW108_230418, 0874_QC103_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	02-May-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW017_230418, 0874_SW129_230418, 0874_SW010_230418	0874_SW127_230418, 0874_SW014_230418,	18-Apr-2023	27-Apr-2023	15-Oct-2023	✓	28-Apr-2023	15-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230419, 0874_SW017_230419, 0874_SW010_230419, 0874_SW121_230419, 0874_SW125_230419, 0874_SW016_230419, 0874_SW102_230419, 0874_SW118_230419, 0874_SW116_230419, 0874_SW108_230419, 0874_QC104_230419,	0874_SW127_230419, 0874_SW014_230419, 0874_SW123_230419, 0874_SW132_230419, 0874_SW112_230419, 0874_SW131_230419, 0874_SW117_230419, 0874_SW115_230419, 0874_SW109_230419, 0874_QC302_230419, 0874_QC105_230419	19-Apr-2023	27-Apr-2023	16-Oct-2023	✓	02-May-2023	16-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	58	10.34	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	5.17	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	5.17	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	58	5.17	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : EB2311697

Client : AECOM AUSTRALIA PTY LTD

Contact : [REDACTED]

Address : [REDACTED]

E-mail : [REDACTED]

Telephone : ----

Facsimile : ----

Project : QLD_0874_PFASOMP_23

Order number : 60612487_2.1

C-O-C number : 51080

Site : 0874 RAAF TSV

Sampler : [REDACTED]

Laboratory : Environmental Division Brisbane

Contact : [REDACTED]

Address : [REDACTED]

E-mail : [REDACTED]

Telephone : [REDACTED]

Facsimile : [REDACTED]

Page : 1 of 4

Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)

QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 21-Apr-2023 08:00

Client Requested Due Date : 04-May-2023

Issue Date : 21-Apr-2023

Scheduled Reporting Date : 04-May-2023

Delivery Details

Mode of Delivery : Carrier

No. of coolers/boxes : 2

Receipt Detail : MEDIUM ESKY

Security Seal : Intact.

Temperature : 3.0/4.5°C - Ice present

No. of samples received / analysed : 58 / 58

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please be advised, additional 20ml PFAS bottle received has been added to its corresponding sample set (ALS #1) as per the ID recorded on its label "SW127".**
- **Please be advised, the quote has been updated as per the Chain of Custody to "TV/007/21". If this is incorrect or for more information, please contact Client Services at Client Services at [REDACTED]**
- *Samples were originally received by ALS Townsville on 19/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818 (Micro site no. 18958).
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: WATER

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311697-001	17-Apr-2023 13:05	0874_SW127_230417	✓
EB2311697-002	17-Apr-2023 14:32	0874_SW014_230417	✓
EB2311697-003	17-Apr-2023 14:06	0874_SW112_230417	✓
EB2311697-004	17-Apr-2023 15:07	0874_SW010_230417	✓
EB2311697-005	17-Apr-2023 15:09	0874_QC100_230417	✓
EB2311697-006	17-Apr-2023 15:28	0874_SW132_230417	✓
EB2311697-007	17-Apr-2023 15:43	0874_SW123_230417	✓
EB2311697-008	17-Apr-2023 16:01	0874_SW125_230417	✓
EB2311697-009	17-Apr-2023 16:16	0874_SW016_230417	✓
EB2311697-010	17-Apr-2023 16:27	0874_SW131_230417	✓
EB2311697-011	17-Apr-2023 16:45	0874_SW102_230417	✓
EB2311697-012	17-Apr-2023 17:13	0874_SW017_230417	✓
EB2311697-013	17-Apr-2023 17:14	0874_QC101_230417	✓
EB2311697-014	17-Apr-2023 17:20	0874_QC300_230417	✓
EB2311697-015	18-Apr-2023 14:11	0874_SW017_230418	✓
EB2311697-016	18-Apr-2023 13:06	0874_SW127_230418	✓
EB2311697-017	18-Apr-2023 11:32	0874_SW129_230418	✓
EB2311697-018	18-Apr-2023 13:59	0874_SW014_230418	✓
EB2311697-019	18-Apr-2023 14:28	0874_SW010_230418	✓
EB2311697-020	18-Apr-2023 12:14	0874_SW121_230418	✓
EB2311697-021	18-Apr-2023 14:40	0874_SW132_230418	✓
EB2311697-022	18-Apr-2023 14:54	0874_SW123_230418	✓
EB2311697-023	18-Apr-2023 15:09	0874_SW125_230418	✓
EB2311697-024	18-Apr-2023 13:33	0874_SW112_230418	✓
EB2311697-025	18-Apr-2023 15:21	0874_SW016_230418	✓
EB2311697-026	18-Apr-2023 15:33	0874_SW131_230418	✓
EB2311697-027	18-Apr-2023 15:51	0874_SW102_230418	✓
EB2311697-028	18-Apr-2023 09:33	0874_SW117_230418	✓
EB2311697-029	18-Apr-2023 09:56	0874_SW118_230418	✓
EB2311697-030	18-Apr-2023 10:12	0874_SW115_230418	✓
EB2311697-031	18-Apr-2023 10:30	0874_SW116_230418	✓
EB2311697-032	18-Apr-2023 10:50	0874_SW109_230418	✓
EB2311697-033	18-Apr-2023 11:02	0874_SW108_230418	✓
EB2311697-034	18-Apr-2023 13:07	0874_QC102_230418	✓
EB2311697-035	18-Apr-2023 15:35	0874_QC103_230418	✓



				WATER - EP231X PFAS - Full Suite (28 analytes)
EB2311697-036	18-Apr-2023 15:56	0874_QC301_230418	✓	
EB2311697-037	19-Apr-2023 10:05	0874_SW129_230419	✓	
EB2311697-038	19-Apr-2023 09:48	0874_SW127_230419	✓	
EB2311697-039	19-Apr-2023 11:28	0874_SW017_230419	✓	
EB2311697-040	19-Apr-2023 11:06	0874_SW014_230419	✓	
EB2311697-041	19-Apr-2023 12:00	0874_SW010_230419	✓	
EB2311697-042	19-Apr-2023 12:35	0874_SW123_230419	✓	
EB2311697-043	19-Apr-2023 11:44	0874_SW121_230419	✓	
EB2311697-044	19-Apr-2023 12:14	0874_SW132_230419	✓	
EB2311697-045	19-Apr-2023 12:47	0874_SW125_230419	✓	
EB2311697-046	19-Apr-2023 10:39	0874_SW112_230419	✓	
EB2311697-047	19-Apr-2023 13:01	0874_SW016_230419	✓	
EB2311697-048	19-Apr-2023 13:12	0874_SW131_230419	✓	
EB2311697-049	19-Apr-2023 13:30	0874_SW102_230419	✓	
EB2311697-050	19-Apr-2023 14:39	0874_SW117_230419	✓	
EB2311697-051	19-Apr-2023 14:51	0874_SW118_230419	✓	
EB2311697-052	19-Apr-2023 15:05	0874_SW115_230419	✓	
EB2311697-053	19-Apr-2023 15:20	0874_SW116_230419	✓	
EB2311697-054	19-Apr-2023 15:32	0874_SW109_230419	✓	
EB2311697-055	19-Apr-2023 15:43	0874_SW108_230419	✓	
EB2311697-056	19-Apr-2023 15:47	0874_QC302_230419	✓	
EB2311697-057	19-Apr-2023 12:37	0874_QC104_230419	✓	
EB2311697-058	19-Apr-2023 15:06	0874_QC105_230419	✓	

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

Email

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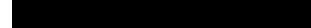
Email



DERP ESDAT REPORTS

- EDI Format - ESDAT (ESDAT)

Email



- *AU Certificate of Analysis - NATA (COA)
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- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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CERTIFICATE OF ANALYSIS

Work Order : **ET2302220**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Project : **QLD_0874_PFSOMP_23 (v2)**
Order number : **60612487_2.1**
C-O-C number : **51226**
Sampler : [REDACTED]
Site : **QLD_0874 SW**
Quote number : **TV/007/21 v2 - Compass**
No. of samples received : **32**
No. of samples analysed : **32**

Page : 1 of 17
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 28-Apr-2023 09:04
Date Analysis Commenced : 28-Apr-2023
Issue Date : 11-May-2023 17:30



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: The LOR of PFBA for sample '0874_SW016_230420' (ET2302220-011) has been raised due to sample matrix interferences.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230420	0874_SW129_230420	0874_SW014_230420	0874_SW112_230420	0874_SW017_230420
Sampling date / time					20-Apr-2023 09:35	20-Apr-2023 10:01	20-Apr-2023 10:58	20-Apr-2023 10:33	20-Apr-2023 11:15
Compound	CAS Number	LOR	Unit	ET2302220-001	ET2302220-002	ET2302220-003	ET2302220-004	ET2302220-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	<0.02	<0.02	<0.02	<0.02	0.03
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.01	0.02	0.11	0.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.03	0.02	0.13	0.05	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.04	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230420	0874_SW129_230420	0874_SW014_230420	0874_SW112_230420	0874_SW017_230420
Sampling date / time				20-Apr-2023 09:35	20-Apr-2023 10:01	20-Apr-2023 10:58	20-Apr-2023 10:33	20-Apr-2023 11:15	
Compound	CAS Number	LOR	Unit	ET2302220-001	ET2302220-002	ET2302220-003	ET2302220-004	ET2302220-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.10	0.04	0.04	0.29	0.12	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.04	0.04	0.24	0.09	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.04	0.04	0.29	0.12	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	98.7	103	93.8	95.4	
13C8-PFOA	----	0.02	%	102	97.2	95.6	102	92.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_230420	0874_SW010_230420	0874_SW132_230420	0874_SW123_230420	0874_SW125_230420
Sampling date / time				20-Apr-2023 14:37	20-Apr-2023 11:33	20-Apr-2023 11:47	20-Apr-2023 12:48	20-Apr-2023 13:01	
Compound	CAS Number	LOR	Unit	ET2302220-006	ET2302220-007	ET2302220-008	ET2302220-009	ET2302220-010	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	0.74	3.70	1.36	7.60	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.19	3.70	1.32	8.14	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.46	1.27	20.2	7.61	45.1	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.07	1.14	0.82	2.42	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.68	2.48	44.2	10.6	75.3	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.2	<1.2	0.3	2.0	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.29	1.83	0.53	3.30	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.09	0.45	8.99	2.20	16.7	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.15	1.66	0.26	1.66	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.20	3.06	0.48	1.71	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.06	<0.24	<0.05	<0.24	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.59	<0.12	<0.59	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.59	<0.12	<0.59	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.59	<0.12	<0.59	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_230420	0874_SW010_230420	0874_SW132_230420	0874_SW123_230420	0874_SW125_230420
Sampling date / time				20-Apr-2023 14:37	20-Apr-2023 11:33	20-Apr-2023 11:47	20-Apr-2023 12:48	20-Apr-2023 13:01	
Compound	CAS Number	LOR	Unit	ET2302220-006	ET2302220-007	ET2302220-008	ET2302220-009	ET2302220-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.59	<0.12	<0.59	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.59	<0.12	<0.59	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.24	<0.05	<0.24	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.24	<0.05	<0.24	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.17	<0.24	<0.05	<0.24	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.24	<0.05	<0.24	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.24	<0.05	<0.24	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.46	6.27	88.5	25.5	164	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.14	3.75	64.4	18.2	120	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.40	5.95	83.6	23.3	153	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	86.5	91.4	96.3	90.1	100	
13C8-PFOA	----	0.02	%	96.3	96.4	98.2	96.1	99.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_230420	0874_SW131_230420	0874_SW102_230420	0874_SW117_230420	0874_SW118_230420
Sampling date / time					20-Apr-2023 13:48	20-Apr-2023 16:29	20-Apr-2023 13:19	20-Apr-2023 14:50	20-Apr-2023 15:02
Compound	CAS Number	LOR	Unit	ET2302220-011	ET2302220-012	ET2302220-013	ET2302220-014	ET2302220-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.30	0.25	0.41	2.46	0.90	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	0.23	0.34	2.88	1.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.09	1.46	2.06	14.8	5.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.19	0.08	0.06	0.98	0.29	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.50	2.00	0.84	19.8	5.86	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.3	<0.1	<0.1	0.9	0.3	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.18	0.14	0.12	1.40	0.46	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.84	0.56	0.59	6.27	2.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	0.06	0.06	1.26	0.34	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.08	0.06	2.14	0.66	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_230420	0874_SW131_230420	0874_SW102_230420	0874_SW117_230420	0874_SW118_230420
Sampling date / time				20-Apr-2023 13:48	20-Apr-2023 16:29	20-Apr-2023 13:19	20-Apr-2023 14:50	20-Apr-2023 15:02	
Compound	CAS Number	LOR	Unit	ET2302220-011	ET2302220-012	ET2302220-013	ET2302220-014	ET2302220-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.12	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.05	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	7.56	4.86	4.54	52.9	16.9	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.59	3.46	2.90	34.6	10.9	
Sum of PFAS (WA DER List)	----	0.01	µg/L	7.14	4.55	4.14	49.0	15.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	87.1	97.5	84.2	98.6	96.5	
13C8-PFOA	----	0.02	%	99.6	99.9	96.4	99.6	94.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_230420	0874_SW116_230420	0874_SW109_230420	0874_SW108_230420	0874_QC106_230420
Sampling date / time					20-Apr-2023 15:09	20-Apr-2023 15:39	20-Apr-2023 15:49	20-Apr-2023 16:00	20-Apr-2023 12:50
Compound	CAS Number	LOR	Unit	ET2302220-016	ET2302220-017	ET2302220-018	ET2302220-019	ET2302220-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.44	0.22	0.19	0.29	1.36	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.42	0.19	0.17	0.25	1.34	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.71	1.18	1.04	1.66	7.95	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.13	0.06	0.04	0.05	0.83	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.08	1.06	0.76	0.88	11.5	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	<0.1	<0.1	<0.1	0.3	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.21	0.09	0.08	0.07	0.59	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.03	0.40	0.36	0.48	2.30	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	0.05	0.04	0.04	0.24	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.19	0.07	0.05	0.05	0.50	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_230420	0874_SW116_230420	0874_SW109_230420	0874_SW108_230420	0874_QC106_230420
Sampling date / time				20-Apr-2023 15:09	20-Apr-2023 15:39	20-Apr-2023 15:49	20-Apr-2023 16:00	20-Apr-2023 12:50	
Compound	CAS Number	LOR	Unit	ET2302220-016	ET2302220-017	ET2302220-018	ET2302220-019	ET2302220-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	7.43	3.32	2.73	3.77	26.9	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.79	2.24	1.80	2.54	19.4	
Sum of PFAS (WA DER List)	----	0.01	µg/L	6.88	3.07	2.52	3.47	24.7	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	90.1	102	98.1	91.8	92.6	
13C8-PFOA	----	0.02	%	94.5	97.5	91.7	97.1	96.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC107_230420	0874_QC303_230420	0874_SW129_230422	0874_SW121_230422	0874_SW117_230422
Sampling date / time					20-Apr-2023 15:03	20-Apr-2023 17:04	22-Apr-2023 09:38	22-Apr-2023 10:09	22-Apr-2023 10:41
Compound	CAS Number	LOR	Unit	ET2302220-021	ET2302220-022	ET2302220-023	ET2302220-024	ET2302220-025	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.87	<0.02	<0.02	0.55	3.18	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.87	<0.02	<0.02	0.42	3.40	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.65	<0.01	<0.01	2.30	16.2	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.28	<0.02	<0.02	0.06	1.12	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.30	<0.01	0.02	0.73	23.9	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	<0.1	<0.1	0.2	0.8	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.48	<0.02	<0.02	0.20	1.28	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.23	<0.02	<0.02	0.58	5.96	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.36	<0.02	<0.02	0.06	1.13	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.61	<0.01	<0.01	0.07	2.17	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.06	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.12	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.12	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC107_230420	0874_QC303_230420	0874_SW129_230422	0874_SW121_230422	0874_SW117_230422
Sampling date / time				20-Apr-2023 15:03	20-Apr-2023 17:04	22-Apr-2023 09:38	22-Apr-2023 10:09	22-Apr-2023 10:41	
Compound	CAS Number	LOR	Unit	ET2302220-021	ET2302220-022	ET2302220-023	ET2302220-024	ET2302220-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	16.0	<0.01	0.02	5.17	59.2	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.95	<0.01	0.02	3.03	40.1	
Sum of PFAS (WA DER List)	----	0.01	µg/L	14.8	<0.01	0.02	4.69	54.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	89.1	94.4	91.8	92.7	97.7	
13C8-PFOA	----	0.02	%	91.0	94.1	97.4	95.7	96.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Sample ID		0874_SW118_230422	0874_SW115_230422	0874_SW116_230422	0874_SW109_230422	0874_SW108_230422
		Sampling date / time		22-Apr-2023 10:47	22-Apr-2023 10:51	22-Apr-2023 11:21	22-Apr-2023 11:33	22-Apr-2023 12:09
Compound	CAS Number	LOR	Unit	ET2302220-026	ET2302220-027	ET2302220-028	ET2302220-029	ET2302220-030
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.73	0.84	0.20	0.14	0.43
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.80	0.84	0.20	0.13	0.37
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	8.70	4.13	1.09	0.79	2.07
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.62	0.27	0.06	0.14	0.08
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	10.3	4.34	1.01	6.13	1.10
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.6	0.2	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.83	0.40	0.06	0.04	0.09
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.77	1.72	0.35	0.24	0.56
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.77	0.27	0.05	0.03	0.05
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.50	0.54	0.09	0.05	0.08
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.13	<0.05	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.13	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.13	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW118_230422	0874_SW115_230422	0874_SW116_230422	0874_SW109_230422	0874_SW108_230422
Sampling date / time				22-Apr-2023 10:47	22-Apr-2023 10:51	22-Apr-2023 11:21	22-Apr-2023 11:33	22-Apr-2023 12:09	
Compound	CAS Number	LOR	Unit	ET2302220-026	ET2302220-027	ET2302220-028	ET2302220-029	ET2302220-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.13	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.13	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	30.6	13.6	3.11	7.69	4.83	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	19.0	8.47	2.10	6.92	3.17	
Sum of PFAS (WA DER List)	----	0.01	µg/L	28.2	12.4	2.85	7.42	4.38	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	101	103	110	97.9	
13C8-PFOA	----	0.02	%	99.4	98.8	92.9	100	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC305_230422	0874_QC114_230422	----	----	----
Sampling date / time				22-Apr-2023 12:24	22-Apr-2023 12:14	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302220-031	ET2302220-032	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.44	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.33	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	1.92	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.07	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	1.10	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.09	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.57	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.05	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.08	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC305_230422	0874_QC114_230422	----	----	----
Sampling date / time				22-Apr-2023 12:24	22-Apr-2023 12:14	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302220-031	ET2302220-032	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	4.65	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	3.02	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	4.25	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	114	104	----	----	----	
13C8-PFOA	----	0.02	%	104	99.9	----	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : **ET2302220**

Client : **AECOM AUSTRALIA PTY LTD**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP_23 (v2)**

Order number : **60612487_2.1**

C-O-C number : **51226**

Sampler : [REDACTED]

Site : **QLD_0874 SW**

Quote number : **TV/007/21 v2 - Compass**

No. of samples received : **32**

No. of samples analysed : **32**

Page : 1 of 17

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : 28-Apr-2023

Date Analysis Commenced : 28-Apr-2023

Issue Date : 11-May-2023



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: WATER

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023971)									
ET2302220-001	0874_SW127_230420	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302250-013	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.03	40.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023977)									
ET2302220-006	0874_SW121_230420	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.46	0.46	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.68	0.60	11.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.10	0.12	15.4	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302220-016	0874_SW115_230420	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.71	2.68	1.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.08	2.32	10.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.44	0.47	5.0	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.42	0.45	7.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.13	0.14	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023977) - continued									
ET2302220-016	0874_SW115_230420	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023979)									
ET2302220-025	0874_SW117_230422	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	16.2	15.8	3.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	23.9	22.4	6.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.18	2.72	15.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.40	3.16	7.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.12	1.10	2.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.04	0.0	No Limit
ET2302252-003	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.04	27.1	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023971)									
ET2302220-001	0874_SW127_230420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		ET2302250-013	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4			0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023977)									
ET2302220-006	0874_SW121_230420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023977) - continued									
ET2302220-006	0874_SW121_230420	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.09	0.10	10.2	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2302220-016	0874_SW115_230420	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.19	0.19	0.0	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.21	0.20	7.5	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.03	1.02	1.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.12	0.12	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.1	0.1	0.0	No Limit		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023979)									
ET2302220-025	0874_SW117_230422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.17	2.21	1.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.28	1.34	5.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	5.96	5.90	1.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.13	1.08	4.5	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.8	0.9	0.0	No Limit
ET2302252-003	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023979) - continued									
ET2302252-003	Anonymous	EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023971)									
ET2302220-001	0874_SW127_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302250-013	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023977)									
ET2302220-006	0874_SW121_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023977) - continued									
ET2302220-006	0874_SW121_230420	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302220-016	0874_SW115_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023979)									
ET2302220-025	0874_SW117_230422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.11	0.0	No Limit
ET2302252-003	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023979) - continued									
ET2302252-003	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023971)									
ET2302220-001	0874_SW127_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302250-013	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023977)									
ET2302220-006	0874_SW121_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302220-016	0874_SW115_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023979)									
ET2302220-025	0874_SW117_230422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023979) - continued									
ET2302220-025	0874_SW117_230422	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-003	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023971)									
ET2302220-001	0874_SW127_230420	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%
ET2302250-013	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.02	40.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.02	40.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.02	40.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023977)									
ET2302220-006	0874_SW121_230420	EP231X: Sum of PFAS	----	0.01	µg/L	1.46	1.44	1.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1.14	1.06	7.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	1.40	1.36	2.9	0% - 20%
ET2302220-016	0874_SW115_230420	EP231X: Sum of PFAS	----	0.01	µg/L	7.43	7.69	3.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.79	5.00	4.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	6.88	7.10	3.1	0% - 20%
EP231P: PFAS Sums (QC Lot: 5023979)									
ET2302220-025	0874_SW117_230422	EP231X: Sum of PFAS	----	0.01	µg/L	59.2	56.7	4.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	40.1	38.2	4.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	54.6	52.4	4.2	0% - 20%
ET2302252-003	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.06	0.05	18.2	No Limit

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 Work Order : ET2302220
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_23 (v2)



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 5023979) - continued									
ET2302252-003	Anonymous	EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.06	15.4	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023971)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	101	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	114	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	90.2	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	83.6	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	111	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023977)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	107	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	112	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	106	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	114	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	101	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023979)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	101	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	123	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	108	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	110	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	79.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5037235)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	106	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	126	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	99.7	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	99.4	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	100	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	91.3	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129



Sub-Matrix: WATER

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)
Method: Compound	CAS Number	LOR	Unit	Low				High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971) - continued								
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023977)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	121	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	108	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	108	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	110	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	114	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	114	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023979)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	83.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5037235)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5037235) - continued								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	92.1	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	83.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	84.4	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	90.2	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	92.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	98.2	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	94.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	85.4	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.6	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	95.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023971)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	116	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023977)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	97.0	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	105	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	106	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	87.2	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	107	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023979)								



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023979) - continued									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	77.1	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.2	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.7	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5037235)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	98.6	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	78.6	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	80.6	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	97.2	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	84.8	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	89.4	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	97.2	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023971)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	109	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	110	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	123	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023977)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	116	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023979)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	100	64.0	140	



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023979) - continued								
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	91.7	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5037235)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	100	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	97.6	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	95.2	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	91.9	64.2	133
EP231P: PFAS Sums (QCLot: 5023971)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5023977)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5023979)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5037235)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023971)							



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023971) - continued							
ET2302220-002	0874_SW129_230420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	119	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	109	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	112	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023977)							
ET2302220-007	0874_SW010_230420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	116	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	99.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023979)							
ET2302220-026	0874_SW118_230422	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	104	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	116	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	103	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	116	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	109	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971)							
ET2302220-002	0874_SW129_230420	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	106	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	107	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	107	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	104	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	112	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	95.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	107	71.0	132
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023977)					
ET2302220-007	0874_SW010_230420	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	114	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	114	72.0	129



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023977) - continued							
ET2302220-007	0874_SW010_230420	EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	77.1	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	110	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	114	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	115	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	106	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	104	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	112	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	99.8	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	108	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023979)							
ET2302220-026	0874_SW118_230422	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	101	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	105	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	119	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	108	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.4	71.0	132
		EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023971)					
ET2302220-002	0874_SW129_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	101	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	115	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	96.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	99.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	97.4	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023977)							
ET2302220-007	0874_SW010_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	104	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.8	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	77.5	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023977) - continued							
ET2302220-007	0874_SW010_230420	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	120	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	94.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	99.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	67.7	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023979)							
ET2302220-026	0874_SW118_230422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	102	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	94.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	76.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	97.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	101	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023971)							
ET2302220-002	0874_SW129_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	112	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	125	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	134	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	130	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023977)							
ET2302220-007	0874_SW010_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	126	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	96.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	106	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	123	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023979)							
ET2302220-026	0874_SW118_230422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	126	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	115	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	128	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2302220	Page	: 1 of 8
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23 (v2)	Date Samples Received	: 28-Apr-2023
Site	: QLD_0874 SW	Issue Date	: 11-May-2023
Sampler	: [REDACTED]	No. of samples received	: 32
Order number	: 60612487_2.1	No. of samples analysed	: 32

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302220--007	0874_SW010_230420	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302220--007	0874_SW010_230420	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302220--026	0874_SW118_230422	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231A: Perfluoroalkyl Sulfonic Acids							
HDPE (no PTFE) (EP231X) 0874_SW127_230420, 0874_SW014_230420, 0874_SW017_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✓	08-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW131_230420, 0874_SW117_230420, 0874_SW116_230420, 0874_SW108_230420, 0874_QC107_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	09-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW118_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	11-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X)							



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids - Continued								
0874_SW129_230422, 0874_SW117_230422, 0874_SW115_230422, 0874_SW109_230422, 0874_QC305_230422,	0874_SW121_230422, 0874_SW118_230422, 0874_SW116_230422, 0874_SW108_230422, 0874_QC114_230422	22-Apr-2023	04-May-2023	19-Oct-2023	✓	09-May-2023	19-Oct-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
0874_SW127_230420, 0874_SW014_230420, 0874_SW017_230420	0874_SW129_230420, 0874_SW112_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	08-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X)								
0874_SW121_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW131_230420, 0874_SW117_230420, 0874_SW116_230420, 0874_SW108_230420, 0874_QC107_230420,	0874_SW010_230420, 0874_SW123_230420, 0874_SW016_230420, 0874_SW102_230420, 0874_SW115_230420, 0874_SW109_230420, 0874_QC106_230420, 0874_QC303_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	09-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X)								
0874_SW118_230420		20-Apr-2023	04-May-2023	17-Oct-2023	✓	11-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X)								
0874_SW129_230422, 0874_SW117_230422, 0874_SW115_230422, 0874_SW109_230422, 0874_QC305_230422,	0874_SW121_230422, 0874_SW118_230422, 0874_SW116_230422, 0874_SW108_230422, 0874_QC114_230422	22-Apr-2023	04-May-2023	19-Oct-2023	✓	09-May-2023	19-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW127_230420, 0874_SW014_230420, 0874_SW017_230420	0874_SW129_230420, 0874_SW112_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	08-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW131_230420, 0874_SW117_230420, 0874_SW116_230420, 0874_SW108_230420, 0874_QC107_230420,	0874_SW010_230420, 0874_SW123_230420, 0874_SW016_230420, 0874_SW102_230420, 0874_SW115_230420, 0874_SW109_230420, 0874_QC106_230420, 0874_QC303_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	09-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW118_230420		20-Apr-2023	04-May-2023	17-Oct-2023	✓	11-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230422, 0874_SW117_230422, 0874_SW115_230422, 0874_SW109_230422, 0874_QC305_230422,	0874_SW121_230422, 0874_SW118_230422, 0874_SW116_230422, 0874_SW108_230422, 0874_QC114_230422	22-Apr-2023	04-May-2023	19-Oct-2023	✓	09-May-2023	19-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW127_230420, 0874_SW014_230420, 0874_SW017_230420	0874_SW129_230420, 0874_SW112_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	08-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW131_230420, 0874_SW117_230420, 0874_SW116_230420, 0874_SW108_230420, 0874_QC107_230420,	0874_SW010_230420, 0874_SW123_230420, 0874_SW016_230420, 0874_SW102_230420, 0874_SW115_230420, 0874_SW109_230420, 0874_QC106_230420, 0874_QC303_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	09-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW118_230420		20-Apr-2023	04-May-2023	17-Oct-2023	✓	11-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230422, 0874_SW117_230422, 0874_SW115_230422, 0874_SW109_230422, 0874_QC305_230422,	0874_SW121_230422, 0874_SW118_230422, 0874_SW116_230422, 0874_SW108_230422, 0874_QC114_230422	22-Apr-2023	04-May-2023	19-Oct-2023	✓	09-May-2023	19-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW127_230420, 0874_SW014_230420, 0874_SW017_230420	0874_SW129_230420, 0874_SW112_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	08-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW121_230420, 0874_SW132_230420, 0874_SW125_230420, 0874_SW131_230420, 0874_SW117_230420, 0874_SW116_230420, 0874_SW108_230420, 0874_QC107_230420,	0874_SW010_230420, 0874_SW123_230420, 0874_SW016_230420, 0874_SW102_230420, 0874_SW115_230420, 0874_SW109_230420, 0874_QC106_230420, 0874_QC303_230420	20-Apr-2023	04-May-2023	17-Oct-2023	✓	09-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW118_230420		20-Apr-2023	04-May-2023	17-Oct-2023	✓	11-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW129_230422, 0874_SW117_230422, 0874_SW115_230422, 0874_SW109_230422, 0874_QC305_230422,	0874_SW121_230422, 0874_SW118_230422, 0874_SW116_230422, 0874_SW108_230422, 0874_QC114_230422	22-Apr-2023	04-May-2023	19-Oct-2023	✓	09-May-2023	19-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	6	57	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	57	7.02	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	57	7.02	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	3	57	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2302220

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1
C-O-C number : 51226
Site : QLD_0874 SW
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 -
Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 28-Apr-2023 09:04
Client Requested Due Date : 11-May-2023

Issue Date : 28-Apr-2023
Scheduled Reporting Date : **11-May-2023**

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 17

Security Seal : Intact.
Temperature : 7.) 2.3°C, 8.) 1.2°C, 9.)
3.8°C, 10.) 2.8°C - Ice
present

Receipt Detail : MEDIUM + SMALL

No. of samples received / analysed : 32 / 32

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- *Samples were originally received by Townsville on 26/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: WATER

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302220-001	20-Apr-2023 09:35	0874_SW127_230420	✓
ET2302220-002	20-Apr-2023 10:01	0874_SW129_230420	✓
ET2302220-003	20-Apr-2023 10:58	0874_SW014_230420	✓
ET2302220-004	20-Apr-2023 10:33	0874_SW112_230420	✓
ET2302220-005	20-Apr-2023 11:15	0874_SW017_230420	✓
ET2302220-006	20-Apr-2023 14:37	0874_SW121_230420	✓
ET2302220-007	20-Apr-2023 11:33	0874_SW010_230420	✓
ET2302220-008	20-Apr-2023 11:47	0874_SW132_230420	✓
ET2302220-009	20-Apr-2023 12:48	0874_SW123_230420	✓
ET2302220-010	20-Apr-2023 13:01	0874_SW125_230420	✓
ET2302220-011	20-Apr-2023 13:48	0874_SW016_230420	✓
ET2302220-012	20-Apr-2023 16:29	0874_SW131_230420	✓
ET2302220-013	20-Apr-2023 13:19	0874_SW102_230420	✓
ET2302220-014	20-Apr-2023 14:50	0874_SW117_230420	✓
ET2302220-015	20-Apr-2023 15:02	0874_SW118_230420	✓
ET2302220-016	20-Apr-2023 15:09	0874_SW115_230420	✓
ET2302220-017	20-Apr-2023 15:39	0874_SW116_230420	✓
ET2302220-018	20-Apr-2023 15:49	0874_SW109_230420	✓
ET2302220-019	20-Apr-2023 16:00	0874_SW108_230420	✓
ET2302220-020	20-Apr-2023 12:50	0874_QC106_230420	✓
ET2302220-021	20-Apr-2023 15:03	0874_QC107_230420	✓
ET2302220-022	20-Apr-2023 17:04	0874_QC303_230420	✓
ET2302220-023	22-Apr-2023 09:38	0874_SW129_230422	✓
ET2302220-024	22-Apr-2023 10:09	0874_SW121_230422	✓
ET2302220-025	22-Apr-2023 10:41	0874_SW117_230422	✓
ET2302220-026	22-Apr-2023 10:47	0874_SW118_230422	✓
ET2302220-027	22-Apr-2023 10:51	0874_SW115_230422	✓
ET2302220-028	22-Apr-2023 11:21	0874_SW116_230422	✓
ET2302220-029	22-Apr-2023 11:33	0874_SW109_230422	✓
ET2302220-030	22-Apr-2023 12:09	0874_SW108_230422	✓
ET2302220-031	22-Apr-2023 12:24	0874_QC305_230422	✓
ET2302220-032	22-Apr-2023 12:14	0874_QC114_230422	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

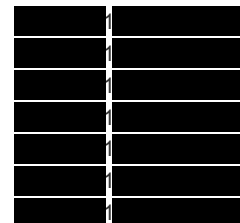
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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CERTIFICATE OF ANALYSIS

Work Order : ET2302221
Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
Telephone : ----
Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1
C-O-C number : 51257
Sampler : [REDACTED]
Site : QLD_0874 Wet season
Quote number : TV/007/21 v2 - Compass
No. of samples received : 18
No. of samples analysed : 18

Page : 1 of 11
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 28-Apr-2023 09:04
Date Analysis Commenced : 28-Apr-2023
Issue Date : 08-May-2023 17:49



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: Sample "0874_SD001_230420"(ET2302221-002) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X - PFAS: The LOR for PFHpA for sample '0874_SW119_230422' (ET2302221_005) has been raised due to matrix interference.
- EP231X - PFAS: Particular samples required dilution prior to extraction for high level contaminants. LOR values have been adjusted accordingly.
- EP231X PFAS: Sample "0874_SD019_230421"(ET2302221-004) required dilution prior to analysis due to the presence of high level contaminants. LOR values have been raised accordingly. Matrix spike recovery not determined.
- EP231X PFAS: The LOR values of PFBA & PFDS have been raised for particular samples due to sample matrix interferences.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD001_230420	0874_SD019_230421	0874_SD126_230420	0874_SD013_230420	0874_SD119_230422
Sampling date / time					20-Apr-2023 12:13	21-Apr-2023 12:15	20-Apr-2023 16:54	20-Apr-2023 13:39	22-Apr-2023 10:27
Compound	CAS Number	LOR	Unit	ET2302221-002	ET2302221-004	ET2302221-006	ET2302221-008	ET2302221-010	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	22.9	25.8	30.7	39.2	23.9	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0004	0.0122	0.0056	0.0003	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	0.0119	0.0033	0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0032	0.0972	0.0172	0.0032	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	0.0165	0.0015	0.0004	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0225	0.229	0.0735	0.0243	0.0006	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0004	<0.0005	<0.0006	<0.0006	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.003	0.002	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0058	0.0039	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0007	0.0194	0.0115	0.0004	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0026	0.0008	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0083	0.0014	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.0020	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD001_230420	0874_SD019_230421	0874_SD126_230420	0874_SD013_230420	0874_SD119_230422
Sampling date / time					20-Apr-2023 12:13	21-Apr-2023 12:15	20-Apr-2023 16:54	20-Apr-2023 13:39	22-Apr-2023 10:27
Compound	CAS Number	LOR	Unit	ET2302221-002	ET2302221-004	ET2302221-006	ET2302221-008	ET2302221-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0009	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0280	0.406	0.121	0.0288	0.0006	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0257	0.326	0.0907	0.0275	0.0006	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0271	0.375	0.116	0.0282	0.0006	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	99.5	125	102	97.5	106	
13C8-PFOA	----	0.0002	%	102	95.0	102	101	104	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD114_230422	0874_QC113_230422	0874_SD208_230422	0874_SD210_230422	----
Sampling date / time					22-Apr-2023 11:11	22-Apr-2023 11:10	22-Apr-2023 11:52	22-Apr-2023 12:20	----
Compound	CAS Number	LOR	Unit	ET2302221-012	ET2302221-014	ET2302221-016	ET2302221-018	-----	-----
				Result	Result	Result	Result	-----	-----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	29.4	28.8	17.6	29.0	----	----
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0002	0.0002	<0.0002	<0.0002	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0006	0.0006	<0.0002	<0.0002	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0074	0.0072	0.0005	0.0011	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD114_230422	0874_QC113_230422	0874_SD208_230422	0874_SD210_230422	----
Sampling date / time				22-Apr-2023 11:11	22-Apr-2023 11:10	22-Apr-2023 11:52	22-Apr-2023 12:20	----	----
Compound	CAS Number	LOR	Unit	ET2302221-012	ET2302221-014	ET2302221-016	ET2302221-018	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0082	0.0080	0.0005	0.0011	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0080	0.0078	0.0005	0.0011	----	----
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0082	0.0080	0.0005	0.0011	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	102	111	103	102	----	----
13C8-PFOA	----	0.0002	%	103	102	105	107	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW001_230420	0874_SW019_230421	0874_SW126_230420	0874_SW013_230420	0874_SW119_230422
Sampling date / time			20-Apr-2023 12:12	21-Apr-2023 12:13	20-Apr-2023 16:55	20-Apr-2023 13:31	22-Apr-2023 10:25	
Compound	CAS Number	LOR	Unit	ET2302221-001	ET2302221-003	ET2302221-005	ET2302221-007	ET2302221-009
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.77	1.13	0.90	0.07	2.91
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.79	1.07	0.60	0.03	3.04
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	5.39	8.73	1.94	0.20	16.8
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.43	0.73	0.11	<0.02	1.12
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	15.9	14.6	3.40	0.11	19.5
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	0.4	0.2	<0.1	0.9
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.32	0.66	0.32	<0.02	1.54
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.62	2.75	1.35	0.06	7.52
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.25	0.83	<0.07	<0.02	1.37
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.41	0.72	0.08	0.02	2.37
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	0.06	<0.02	<0.02	<0.05
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	<0.06	<0.05	<0.12
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	0.08	<0.02	<0.02	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	<0.06	<0.05	<0.12
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	<0.06	<0.05	<0.12



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW001_230420	0874_SW019_230421	0874_SW126_230420	0874_SW013_230420	0874_SW119_230422
Sampling date / time					20-Apr-2023 12:12	21-Apr-2023 12:13	20-Apr-2023 16:55	20-Apr-2023 13:31	22-Apr-2023 10:25
Compound	CAS Number	LOR	Unit	ET2302221-001	ET2302221-003	ET2302221-005	ET2302221-007	ET2302221-009	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	<0.06	<0.05	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	<0.06	<0.05	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.23	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.49	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	25.9	32.2	8.90	0.49	57.1	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	21.3	23.3	5.34	0.31	36.3	
Sum of PFAS (WA DER List)	----	0.01	µg/L	24.7	30.3	8.19	0.46	52.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	100	106	103	105	109	
13C8-PFOA	----	0.02	%	98.2	104	102	101	99.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW114_230422	0874_QC112_230422	0874_SW208_230422	0874_SW210_230422	----
Sampling date / time			22-Apr-2023 11:08	22-Apr-2023 11:09	22-Apr-2023 11:51	22-Apr-2023 12:20	----	----
Compound	CAS Number	LOR	Unit	ET2302221-011	ET2302221-013	ET2302221-015	ET2302221-017	-----
				Result	Result	Result	Result	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.10	<0.02	0.05	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.07	0.08	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.46	0.47	0.03	0.10	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.02	0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.33	0.36	0.03	0.08	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.17	0.18	0.02	0.03	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.02	0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.03	0.02	0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW114_230422	0874_QC112_230422	0874_SW208_230422	0874_SW210_230422	----
Sampling date / time				22-Apr-2023 11:08	22-Apr-2023 11:09	22-Apr-2023 11:51	22-Apr-2023 12:20	----	----
Compound	CAS Number	LOR	Unit	ET2302221-011	ET2302221-013	ET2302221-015	ET2302221-017	-----	-----
				Result	Result	Result	Result	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----	----
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.21	1.28	0.10	0.27	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.79	0.83	0.06	0.18	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.12	1.18	0.10	0.27	----	----
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	103	104	98.6	101	----	----
13C8-PFOA	----	0.02	%	95.5	103	102	104	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : **ET2302221**

Client : **AECOM AUSTRALIA PTY LTD**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP_23 (v2)**

Order number : **60612487_2.1**

C-O-C number : **51257**

Sampler : [REDACTED]

Site : **QLD_0874 Wet season**

Quote number : **TV/007/21 v2 - Compass**

No. of samples received : **18**

No. of samples analysed : **18**

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Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : 28-Apr-2023

Date Analysis Commenced : 28-Apr-2023

Issue Date : 08-May-2023



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5021144)									
ET2302221-002	0874_SD001_230420	EA055: Moisture Content	----	0.1	%	22.9	23.7	3.4	0% - 20%
ET2302222-022	Anonymous	EA055: Moisture Content	----	0.1	%	43.9	43.7	0.4	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5021143)									
ET2302221-002	0874_SD001_230420	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0004	0.0005	22.8	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	0.0006	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0032	# 0.0044	31.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	0.0007	44.6	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0225	# 0.0288	24.3	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0004	<0.0004	0.0	No Limit
ET2302222-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0004	71.8	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0023	0.0032	33.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5021143)									
ET2302221-002	0874_SD001_230420	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0007	0.0009	23.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5021143) - continued									
ET2302221-002	0874_SD001_230420	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ET2302222-022	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5021143)									
ET2302221-002	0874_SD001_230420	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5021143)									
ET2302221-002	0874_SD001_230420	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER									
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	145	138	5.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	757	785	3.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	18.0	17.7	1.6	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	19.6	18.5	5.6	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	29.6	29.5	0.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.43	<2.32	4.3	No Limit
ET2302221-017	0874_SW210_230422	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	0.13	18.9	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.09	15.4	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	46.8	50.2	7.0	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	11.2	10.2	8.7	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	76.0	75.8	0.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	21.1	20.0	5.4	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	3.16	3.26	3.1	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<5.02	<4.88	3.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.43	<2.32	4.3	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023964) - continued									
EM2307462-001	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<12.1	<11.6	4.3	No Limit
ET2302221-017	0874_SW210_230422	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<5.02	<4.88	3.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<6.07	<5.81	4.3	No Limit
ET2302221-017	0874_SW210_230422	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	682	814	17.7	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	772	764	1.0	0% - 20%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	11.0	10.7	3.0	No Limit
ET2302221-017	0874_SW210_230422	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	2590	2740	5.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	902	923	2.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2530	2670	5.6	0% - 20%
ET2302221-017	0874_SW210_230422	EP231X: Sum of PFAS	----	0.01	µg/L	0.27	0.31	13.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.18	0.22	20.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.27	0.31	13.8	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021143)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	97.3	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	98.3	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	88.6	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	113	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	108	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	102	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021143)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	91.0	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.6	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021143)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	99.7	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.1	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021143)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021143) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	96.6	62.0	145
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	105	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	106	65.0	137
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	96.2	54.8	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023964)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	124	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	125	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	114	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	112	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023964)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	116	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	119	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	120	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	119	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	134	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	124	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023964)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	119	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	127	62.6	138



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023964) - continued								
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023964)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	117	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	98.3	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	110	64.2	133
EP231P: PFAS Sums (QCLot: 5023964)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021143)							
ET2302221-004	0874_SD019_230421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	# Not Determined	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	# Not Determined	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	# Not Determined	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021143)							
ET2302221-004	0874_SD019_230421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	# Not Determined	71.0	135



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021143) - continued							
ET2302221-004	0874_SD019_230421	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# Not Determined	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	# Not Determined	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	92.0	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	92.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	96.0	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	76.0	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	88.0	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	86.5	69.0	133		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021143)							
ET2302221-004	0874_SD019_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	# Not Determined	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	117	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	83.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	89.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	# Not Determined	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	88.0	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	84.0	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021143)							
ET2302221-004	0874_SD019_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	72.6	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	72.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	# Not Determined	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	79.2	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023964)							



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023964) - continued							
EM2307462-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	88.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	70.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHps)	375-92-8	0.238 µg/L	82.5	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	115	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	87.5	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	89.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	77.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	105	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	72.3	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	72.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	77.7	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	79.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	100	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	83.5	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	75.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	85.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	74.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	89.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	76.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	74.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	# Not Determined	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	132	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	118	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2302221	Page	: 1 of 7
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23 (v2)	Date Samples Received	: 28-Apr-2023
Site	: QLD_0874 Wet season	Issue Date	: 08-May-2023
Sampler	: [REDACTED]	No. of samples received	: 18
Order number	: 60612487_2.1	No. of samples analysed	: 18

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--002	0874_SD001_230420	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	31.2 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--002	0874_SD001_230420	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	24.3 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	0874_SD019_230421	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	0874_SD019_230421	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	0874_SD019_230421	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	0874_SD019_230421	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	0874_SD019_230421	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302221--004	0874_SD019_230421	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302221--004	0874_SD019_230421	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2307462--002	Anonymous	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	----	----	----	02-May-2023	04-May-2023	✓
HDPE Soil Jar (EA055) 0874_SD019_230421		21-Apr-2023	----	----	----	02-May-2023	05-May-2023	✓
HDPE Soil Jar (EA055) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	----	----	----	02-May-2023	06-May-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	02-May-2023	17-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD019_230421		21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	02-May-2023	19-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	02-May-2023	17-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD019_230421		21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	02-May-2023	19-Oct-2023	✓	08-May-2023	11-Jun-2023	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	02-May-2023	17-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD019_230421		21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	02-May-2023	19-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	02-May-2023	17-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD019_230421		21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	02-May-2023	19-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD001_230420, 0874_SD013_230420	0874_SD126_230420,	20-Apr-2023	02-May-2023	17-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD019_230421		21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD119_230422, 0874_QC113_230422, 0874_SD210_230422	0874_SD114_230422, 0874_SD208_230422,	22-Apr-2023	02-May-2023	19-Oct-2023	✓	08-May-2023	11-Jun-2023	✓

Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW001_230420, 0874_SW013_230420	0874_SW126_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW019_230421		21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW119_230422, 0874_QC112_230422, 0874_SW210_230422	0874_SW114_230422, 0874_SW208_230422,	22-Apr-2023	03-May-2023	19-Oct-2023	✓	04-May-2023	19-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW001_230420, 0874_SW013_230420	0874_SW126_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW019_230421		21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW119_230422, 0874_QC112_230422, 0874_SW210_230422	0874_SW114_230422, 0874_SW208_230422,	22-Apr-2023	03-May-2023	19-Oct-2023	✓	04-May-2023	19-Oct-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW001_230420, 0874_SW013_230420	0874_SW126_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW019_230421		21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW119_230422, 0874_QC112_230422, 0874_SW210_230422	0874_SW114_230422, 0874_SW208_230422,	22-Apr-2023	03-May-2023	19-Oct-2023	✓	04-May-2023	19-Oct-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW001_230420, 0874_SW013_230420	0874_SW126_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW019_230421		21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW119_230422, 0874_QC112_230422, 0874_SW210_230422	0874_SW114_230422, 0874_SW208_230422,	22-Apr-2023	03-May-2023	19-Oct-2023	✓	04-May-2023	19-Oct-2023	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW001_230420, 0874_SW013_230420	0874_SW126_230420,	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW019_230421		21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW119_230422, 0874_QC112_230422, 0874_SW210_230422	0874_SW114_230422, 0874_SW208_230422,	22-Apr-2023	03-May-2023	19-Oct-2023	✓	04-May-2023	19-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2302221

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1
C-O-C number : 51257
Site : QLD_0874 Wet season
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 3
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 -
Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 28-Apr-2023 09:04
Client Requested Due Date : 08-May-2023
Issue Date : 28-Apr-2023
Scheduled Reporting Date : **08-May-2023**

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 17
Security Seal : Intact.
Temperature : 7.) 2.3°C, 8.) 1.2°C, 9.)
3.8°C, 10.) 2.8°C - Ice
present
Receipt Detail : MEDIUM+SMALL
No. of samples received / analysed : 18 / 18

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- *Samples were originally received by Townsville on 26/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2302221-002	20-Apr-2023 12:13	0874_SD001_230420	✓	✓
ET2302221-004	21-Apr-2023 12:15	0874_SD019_230421	✓	✓
ET2302221-006	20-Apr-2023 16:54	0874_SD126_230420	✓	✓
ET2302221-008	20-Apr-2023 13:39	0874_SD013_230420	✓	✓
ET2302221-010	22-Apr-2023 10:27	0874_SD119_230422	✓	✓
ET2302221-012	22-Apr-2023 11:11	0874_SD114_230422	✓	✓
ET2302221-014	22-Apr-2023 11:10	0874_QC113_230422	✓	✓
ET2302221-016	22-Apr-2023 11:52	0874_SD208_230422	✓	✓
ET2302221-018	22-Apr-2023 12:20	0874_SD210_230422	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302221-001	20-Apr-2023 12:12	0874_SW001_230420	✓
ET2302221-003	21-Apr-2023 12:13	0874_SW019_230421	✓
ET2302221-005	20-Apr-2023 16:55	0874_SW126_230420	✓
ET2302221-007	20-Apr-2023 13:31	0874_SW013_230420	✓
ET2302221-009	22-Apr-2023 10:25	0874_SW119_230422	✓
ET2302221-011	22-Apr-2023 11:08	0874_SW114_230422	✓
ET2302221-013	22-Apr-2023 11:09	0874_QC112_230422	✓
ET2302221-015	22-Apr-2023 11:51	0874_SW208_230422	✓
ET2302221-017	22-Apr-2023 12:20	0874_SW210_230422	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

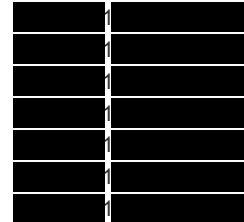
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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CERTIFICATE OF ANALYSIS

Work Order : **ET2302222**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Project : **QLD_0874_PFSOMP_23 (v2)**
Order number : **60612487_2.1**
C-O-C number : **51310**
Sampler : [REDACTED]
Site : **QLD_0874 SW/SD**
Quote number : **TV/007/21 v2 - Compass**
No. of samples received : **43**
No. of samples analysed : **43**

Page : 1 of 23
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]

Telephone : [REDACTED]
Date Samples Received : 28-Apr-2023 00:00
Date Analysis Commenced : 28-Apr-2023
Issue Date : 12-May-2023 17:41



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: The LOR for PFDS has been raised for samples '0874_SD121_230421' (ET2302222_026) and '0874_QC111_230421' (ET2302222_043) due to matrix interference.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Sample "ET2302221-002" shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- EP231X PFAS: Matrix spike recovery for sample "ET2302221-004" not determined due to dilution of primary sample.
- EP231X PFAS: Samples "0874_SD132_230421"(ET2302222-028), "0874_SD123_230421"(ET2302222-029) & "0874_SD125_230421"(ET2302222-030) required dilution prior to analysis due to the presence of high level contaminants. LOR values have been adjusted accordingly. Surrogate recoveries were not determined.
- EP231X PFAS: The LOR values for "0874_SD016_230421"(ET2302222-031) have been raised due to high moisture content.
- EP231X PFAS: The LOR values of particular analytes have been raised for particular samples due to sample matrix interferences.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD127_230421	0874_SD129_230421	0874_SD014_230421	0874_SD112_230421	0874_SD017_230421
Sampling date / time				21-Apr-2023 10:21	21-Apr-2023 10:22	21-Apr-2023 10:46	21-Apr-2023 10:21	21-Apr-2023 11:02	
Compound	CAS Number	LOR	Unit	ET2302222-021	ET2302222-022	ET2302222-023	ET2302222-024	ET2302222-025	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	24.3	43.9	53.0	29.2	35.2	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	0.0004	0.0004	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0005	0.0023	0.0024	0.0021	<0.0002	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD127_230421	0874_SD129_230421	0874_SD014_230421	0874_SD112_230421	0874_SD017_230421
Sampling date / time				21-Apr-2023 10:21	21-Apr-2023 10:22	21-Apr-2023 10:46	21-Apr-2023 10:21	21-Apr-2023 11:02	
Compound	CAS Number	LOR	Unit	ET2302222-021	ET2302222-022	ET2302222-023	ET2302222-024	ET2302222-025	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0005	0.0023	0.0032	0.0025	<0.0002	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0005	0.0023	0.0028	0.0025	<0.0002	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0005	0.0023	0.0028	0.0025	<0.0002	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	98.0	100	104	102	111	
13C8-PFOA	----	0.0002	%	99.0	104	106	99.5	110	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD121_230421	0874_SD010_230421	0874_SD132_230421	0874_SD123_230421	0874_SD125_230421
Sampling date / time				21-Apr-2023 14:32	21-Apr-2023 11:24	21-Apr-2023 11:37	21-Apr-2023 11:59	21-Apr-2023 12:32	
Compound	CAS Number	LOR	Unit	ET2302222-026	ET2302222-027	ET2302222-028	ET2302222-029	ET2302222-030	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	58.7	25.9	61.0	22.0	33.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0014	0.0006	0.0033	<0.0018	0.0560	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0012	0.0008	0.0032	0.0021	<0.0248	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0095	0.0075	0.0246	0.0225	0.321	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0007	0.0007	0.0017	0.0033	0.0411	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0503	0.0364	0.108	0.291	9.46	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0026	<0.0004	<0.0024	<0.0040	<0.0248	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.002	<0.124	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0003	0.0016	0.0014	<0.0248	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0012	0.0006	0.0074	0.0045	0.0411	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	<0.0002	0.0013	0.0010	<0.0248	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0005	0.0004	0.0034	0.0018	<0.0248	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0004	<0.0005	<0.0248	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0004	<0.0005	<0.0248	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0006	<0.0005	<0.0248	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0006	<0.0002	0.0008	<0.0005	<0.0248	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0006	<0.0005	<0.0248	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0013	<0.0619	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0012	0.0971	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0013	<0.0619	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD121_230421	0874_SD010_230421	0874_SD132_230421	0874_SD123_230421	0874_SD125_230421
Sampling date / time					21-Apr-2023 14:32	21-Apr-2023 11:24	21-Apr-2023 11:37	21-Apr-2023 11:59	21-Apr-2023 12:32
Compound	CAS Number	LOR	Unit	ET2302222-026	ET2302222-027	ET2302222-028	ET2302222-029	ET2302222-030	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0013	<0.0619	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0013	<0.0619	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0013	<0.0619	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0005	<0.0248	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0004	<0.0005	<0.0248	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0248	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0248	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0248	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0248	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0656	0.0473	0.155	0.329	10.0	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0598	0.0439	0.133	0.314	9.78	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0631	0.0458	0.150	0.322	9.88	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	114	106	90.0	80.0	Not Determined	
13C8-PFOA	----	0.0002	%	107	103	112	95.0	Not Determined	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD016_230421	0874_SD131_230421	0874_SD102_230421	0874_SD117_230421	0874_SD118_230421
Sampling date / time				21-Apr-2023 12:49	21-Apr-2023 13:02	21-Apr-2023 13:23	21-Apr-2023 15:05	21-Apr-2023 15:15	
Compound	CAS Number	LOR	Unit	ET2302222-031	ET2302222-032	ET2302222-033	ET2302222-034	ET2302222-035	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	84.3	32.8	81.6	64.1	74.7	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0012	0.0004	0.0033	0.0007	0.0036	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0011	0.0004	0.0026	0.0006	0.0039	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0304	0.0042	0.0307	0.0048	0.0286	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0046	0.0004	0.0027	0.0007	0.0041	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.248	0.0265	0.117	0.0618	0.254	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0156	<0.0002	0.0006	0.0022	0.0030	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.002	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0008	<0.0002	0.0004	0.0004	0.0014	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0027	0.0013	0.0036	0.0016	0.0073	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0005	0.0007	0.0017	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0013	0.0005	0.0012	0.0011	0.0047	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0006	<0.0002	<0.0002	0.0006	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0012	<0.0002	<0.0002	0.0022	0.0005	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	0.0005	0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0006	<0.0005	<0.0006	0.0006	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0010	<0.0002	<0.0002	<0.0002	0.0010	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0006	<0.0005	<0.0006	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD016_230421	0874_SD131_230421	0874_SD102_230421	0874_SD117_230421	0874_SD118_230421
Sampling date / time					21-Apr-2023 12:49	21-Apr-2023 13:02	21-Apr-2023 13:23	21-Apr-2023 15:05	21-Apr-2023 15:15
Compound	CAS Number	LOR	Unit	ET2302222-031	ET2302222-032	ET2302222-033	ET2302222-034	ET2302222-035	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0006	<0.0005	<0.0006	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0006	<0.0005	<0.0006	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0006	<0.0005	<0.0006	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.308	0.0337	0.163	0.0789	0.314	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.278	0.0307	0.148	0.0666	0.283	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.284	0.0329	0.157	0.0711	0.301	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	99.5	98.0	109	112	106	
13C8-PFOA	----	0.0002	%	102	103	101	106	102	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD115_230421	0874_SD116_230421	0874_SD109_230421	0874_SD108_230421	0874_QC108_230421
Sampling date / time					21-Apr-2023 15:31	21-Apr-2023 15:53	21-Apr-2023 16:05	21-Apr-2023 16:15	21-Apr-2023 10:47
Compound	CAS Number	LOR	Unit	ET2302222-036	ET2302222-037	ET2302222-038	ET2302222-039	ET2302222-040	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	71.4	27.8	31.9	56.8	11.5	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0006	<0.0002	<0.0002	0.0005	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	<0.0002	<0.0002	0.0004	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0039	0.0009	0.0003	0.0037	<0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0006	<0.0002	<0.0002	0.0004	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0434	0.0035	0.0072	0.0143	0.0007	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	0.0011	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0010	0.0003	<0.0002	0.0006	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0007	<0.0002	0.0002	0.0002	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD115_230421	0874_SD116_230421	0874_SD109_230421	0874_SD108_230421	0874_QC108_230421
Sampling date / time				21-Apr-2023 15:31	21-Apr-2023 15:53	21-Apr-2023 16:05	21-Apr-2023 16:15	21-Apr-2023 10:47	
Compound	CAS Number	LOR	Unit	ET2302222-036	ET2302222-037	ET2302222-038	ET2302222-039	ET2302222-040	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0527	0.0047	0.0077	0.0201	0.0007	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0473	0.0044	0.0075	0.0180	0.0007	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0498	0.0047	0.0077	0.0193	0.0007	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	105	90.0	110	102	104	
13C8-PFOA	----	0.0002	%	99.0	96.5	100	97.5	97.5	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		0874_QC111_230421	----	----	----	----
Sampling date / time		21-Apr-2023 15:05		----	----	----	----	----
Compound	CAS Number	LOR	Unit	ET2302222-043	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	61.8	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0005	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0040	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0005	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0686	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0028	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0002	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0015	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0004	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0010	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0005	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	0.0006	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0009	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	0.0004	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	0.0005	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	----	----	----	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_QC111_230421	----	----	----	----
Sampling date / time				21-Apr-2023 15:05	----	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302222-043	-----	-----	-----	-----	
				Result	---	---	---	---	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	----	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	----	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	----	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	----	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	----	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	----	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	----	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0801	----	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0726	----	----	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0762	----	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	128	----	----	----	----	
13C8-PFOA	----	0.0002	%	108	----	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW127_230421	0874_SW129_230421	0874_SW014_230421	0874_SW112_230421	0874_SW017_230421
Sampling date / time					21-Apr-2023 09:11	21-Apr-2023 09:29	21-Apr-2023 10:43	21-Apr-2023 10:10	21-Apr-2023 10:59
Compound	CAS Number	LOR	Unit	ET2302222-001	ET2302222-002	ET2302222-003	ET2302222-004	ET2302222-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.21	0.05	0.07	0.39	0.13	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.01	0.04	0.26	0.09	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.21	0.05	0.07	0.39	0.13	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.3	90.1	93.0	95.1	96.7	
13C8-PFOA	----	0.02	%	97.1	94.5	96.5	93.8	92.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_SW121_230421	0874_SW010_230421	0874_SW132_230421	0874_SW123_230421	0874_SW125_230421
Sampling date / time			21-Apr-2023 14:33	21-Apr-2023 11:23	21-Apr-2023 11:37	21-Apr-2023 11:58	21-Apr-2023 12:32	
Compound	CAS Number	LOR	Unit	ET2302222-006	ET2302222-007	ET2302222-008	ET2302222-009	ET2302222-010
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.43	0.53	3.42	1.29	3.41
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.32	0.19	3.49	1.33	3.57
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.80	1.12	20.0	8.19	17.6
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.08	1.51	0.88	1.28
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.73	2.81	40.3	14.6	23.4
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.1	<1.2	0.4	0.5
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.18	0.33	1.84	0.67	1.37
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.38	0.47	8.40	2.15	6.96
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.14	1.44	0.24	0.59
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	0.18	2.93	0.55	0.65
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.08	<0.23	<0.04	<0.04
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.58	<0.11	<0.10
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.58	<0.11	<0.10
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.58	<0.11	<0.10



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW121_230421	0874_SW010_230421	0874_SW132_230421	0874_SW123_230421	0874_SW125_230421
Sampling date / time				21-Apr-2023 14:33	21-Apr-2023 11:23	21-Apr-2023 11:37	21-Apr-2023 11:58	21-Apr-2023 12:32	
Compound	CAS Number	LOR	Unit	ET2302222-006	ET2302222-007	ET2302222-008	ET2302222-009	ET2302222-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.58	<0.11	<0.10	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.58	<0.11	<0.10	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.23	<0.04	<0.04	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.23	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.09	<0.23	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.23	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.23	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.19	6.12	83.3	30.3	59.3	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.53	3.93	60.3	22.8	41.0	
Sum of PFAS (WA DER List)	----	0.01	µg/L	3.82	5.77	78.3	28.1	54.5	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	91.9	97.4	91.1	92.2	101	
13C8-PFOA	----	0.02	%	95.0	98.6	98.9	96.6	105	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_230421	0874_SW131_230421	0874_SW102_230421	0874_SW117_230421	0874_SW118_230421
Sampling date / time				21-Apr-2023 12:49	21-Apr-2023 13:02	21-Apr-2023 13:23	21-Apr-2023 14:59	21-Apr-2023 15:15	
Compound	CAS Number	LOR	Unit	ET2302222-011	ET2302222-012	ET2302222-013	ET2302222-014	ET2302222-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.20	0.29	0.51	2.80	1.36	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.15	0.30	0.43	2.93	1.49	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.96	1.93	2.77	15.7	7.63	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	0.11	0.09	1.16	0.49	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.37	2.57	1.10	23.2	10.2	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.3	<0.1	0.1	1.1	0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.11	0.14	0.16	1.54	0.75	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.50	0.66	0.73	6.92	3.39	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.06	0.06	0.07	1.26	0.60	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.08	0.10	0.07	2.49	1.20	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW016_230421	0874_SW131_230421	0874_SW102_230421	0874_SW117_230421	0874_SW118_230421
Sampling date / time				21-Apr-2023 12:49	21-Apr-2023 13:02	21-Apr-2023 13:23	21-Apr-2023 14:59	21-Apr-2023 15:15	
Compound	CAS Number	LOR	Unit	ET2302222-011	ET2302222-012	ET2302222-013	ET2302222-014	ET2302222-015	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.09	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	4.53	6.16	6.03	59.1	27.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.33	4.50	3.87	38.9	17.8	
Sum of PFAS (WA DER List)	----	0.01	µg/L	4.28	5.75	5.51	55.0	25.6	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.8	94.1	109	94.7	91.8	
13C8-PFOA	----	0.02	%	102	103	100	105	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_230421	0874_SW116_230421	0874_SW109_230421	0874_SW108_230421	0874_QC304_230421
Sampling date / time				21-Apr-2023 15:28	21-Apr-2023 15:52	21-Apr-2023 16:04	21-Apr-2023 16:13	21-Apr-2023 16:17	
Compound	CAS Number	LOR	Unit	ET2302222-016	ET2302222-017	ET2302222-018	ET2302222-019	ET2302222-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.79	0.31	0.24	0.36	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.88	0.28	0.23	0.33	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.69	1.70	1.52	2.05	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.26	0.10	0.07	0.06	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.97	1.40	1.10	1.06	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.36	0.13	0.09	0.10	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.76	0.64	0.47	0.56	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.26	0.08	0.05	0.04	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.51	0.14	0.10	0.06	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW115_230421	0874_SW116_230421	0874_SW109_230421	0874_SW108_230421	0874_QC304_230421
Sampling date / time				21-Apr-2023 15:28	21-Apr-2023 15:52	21-Apr-2023 16:04	21-Apr-2023 16:13	21-Apr-2023 16:17	
Compound	CAS Number	LOR	Unit	ET2302222-016	ET2302222-017	ET2302222-018	ET2302222-019	ET2302222-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	14.8	4.78	3.87	4.62	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.66	3.10	2.62	3.11	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	13.6	4.40	3.57	4.23	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	91.9	90.6	97.9	106	
13C8-PFOA	----	0.02	%	103	103	104	103	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC109_230421	0874_QC110_230421	----	----	----
Sampling date / time				21-Apr-2023 10:45	21-Apr-2023 15:01	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302222-041	ET2302222-042	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	2.85	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	3.13	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	16.4	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	1.13	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	24.1	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.05	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.8	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	1.51	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	7.09	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	1.18	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	2.40	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.05	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.05	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.05	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.05	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.05	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.12	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.12	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.12	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC109_230421	0874_QC110_230421	----	----	----
Sampling date / time				21-Apr-2023 10:45	21-Apr-2023 15:01	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302222-041	ET2302222-042	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.12	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.12	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.05	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.04	60.6	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.04	40.5	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.04	56.3	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.2	88.3	----	----	----	
13C8-PFOA	----	0.02	%	101	101	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : **ET2302222**

Client : **AECOM AUSTRALIA PTY LTD**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP_23 (v2)**

Order number : **60612487_2.1**

C-O-C number : **51310**

Sampler : [REDACTED]

Site : **QLD_0874 SW/SD**

Quote number : **TV/007/21 v2 - Compass**

No. of samples received : **43**

No. of samples analysed : **43**

Page : 1 of 20

Laboratory : **Environmental Division Townsville**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : **28-Apr-2023**

Date Analysis Commenced : **28-Apr-2023**

Issue Date : **12-May-2023**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5021144)									
ET2302221-002	Anonymous	EA055: Moisture Content	----	0.1	%	22.9	23.7	3.4	0% - 20%
ET2302222-022	0874_SD129_230421	EA055: Moisture Content	----	0.1	%	43.9	43.7	0.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5021148)									
EB2312478-021	Anonymous	EA055: Moisture Content	----	0.1	%	26.5	25.8	2.6	0% - 20%
ET2302222-039	0874_SD108_230421	EA055: Moisture Content	----	0.1	%	56.8	57.0	0.3	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5021143)									
ET2302221-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0004	0.0005	22.8	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0005	0.0006	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0032	# 0.0044	31.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	0.0007	44.6	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0225	# 0.0288	24.3	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0004	<0.0004	0.0	No Limit
ET2302222-022	0874_SD129_230421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.0004	71.8	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0023	0.0032	33.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5021147)									
EB2312478-021	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0009	0.0009	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5021147) - continued									
EB2312478-021	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0103	0.0096	6.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
ET2302222-039	0874_SD108_230421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0005	0.0005	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0004	0.0004	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0037	0.0033	11.8	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0004	0.0003	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0143	0.0169	16.8	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5021143)									
ET2302221-002	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0007	0.0009	23.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-022	0874_SD129_230421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5021147)									
EB2312478-021	Anonymous	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	0.0015	0.0014	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0018	0.0019	5.5	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	0.0008	0.0008	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0011	0.0010	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	0.0003	0.0003	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	0.0002	<0.0002	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5021147) - continued									
EB2312478-021	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
ET2302222-039	0874_SD108_230421	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0002	0.0003	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.0002	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5021143)									
ET2302221-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-022	0874_SD129_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5021147)									
EB2312478-021	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-039	0874_SD108_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5021143)									
ET2302221-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-022	0874_SD129_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5021143) - continued									
ET2302222-022	0874_SD129_230421	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5021147)									
EB2312478-021	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	0.0007	0.0007	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
ET2302222-039	0874_SD108_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023980)									
ET2302222-001	0874_SW127_230421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.16	0.12	26.1	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302252-015	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.69	0.72	3.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.79	2.86	2.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023983)									
ET2302222-009	0874_SW123_230421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	8.19	8.06	1.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	14.6	12.4	16.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.29	1.49	14.2	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.33	1.22	8.5	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.88	0.84	4.9	0% - 50%



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023983) - continued									
ET2302222-009	0874_SW123_230421	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.04	<0.04	0.0	No Limit
ET2302222-019	0874_SW108_230421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.05	2.08	1.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.06	1.06	0.0	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.36	0.34	5.4	0% - 50%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.33	0.34	0.0	0% - 50%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023980)									
ET2302222-001	0874_SW127_230421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.04	34.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2302252-015	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023983)									
ET2302222-009	0874_SW123_230421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.55	0.54	2.1	0% - 50%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.67	0.64	4.4	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.15	2.13	1.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.24	0.22	8.9	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.04	<0.04	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023983) - continued									
ET2302222-009	0874_SW123_230421	EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.11	<0.11	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.4	0.4	0.0	No Limit
ET2302222-019	0874_SW108_230421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.10	0.09	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.56	0.55	0.0	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023980)									
ET2302222-001	0874_SW127_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-015	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023983)									



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023983) - continued									
ET2302222-009	0874_SW123_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.04	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.11	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.11	<0.11	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.11	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.11	<0.11	0.0	No Limit
ET2302222-019	0874_SW108_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023980)									
ET2302222-001	0874_SW127_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-015	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023980) - continued									
ET2302252-015	Anonymous	EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023983)									
ET2302222-009	0874_SW123_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302222-019	0874_SW108_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023980)									
ET2302222-001	0874_SW127_230421	EP231X: Sum of PFAS	----	0.01	µg/L	0.21	0.18	15.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.21	0.18	15.4	0% - 20%
ET2302252-015	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	3.78	3.88	2.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.48	3.58	2.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.68	3.78	2.7	0% - 20%
EP231P: PFAS Sums (QC Lot: 5023983)									
ET2302222-009	0874_SW123_230421	EP231X: Sum of PFAS	----	0.01	µg/L	30.3	27.9	8.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	22.8	20.5	10.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	28.1	25.9	8.2	0% - 20%
ET2302222-019	0874_SW108_230421	EP231X: Sum of PFAS	----	0.01	µg/L	4.62	4.63	0.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.11	3.14	1.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.23	4.22	0.2	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021143)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	97.3	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	98.3	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	88.6	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	113	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	108	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	102	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021147)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	125	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	109	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	100	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	116	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	122	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	114	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021143)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	91.0	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	93.6	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	97.2	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	87.6	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	110	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	101	69.0	133
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021147)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	99.1	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	111	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	108	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	120	71.0	131



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021147) - continued									
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	69.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	72.0	129	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	69.0	133	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	118	64.0	136	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	135	69.0	135	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	128	66.0	139	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	117	69.0	133	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021143)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	120	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	104	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	99.7	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	93.1	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	101	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	61.0	139	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021147)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	112	59.6	143	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	109	62.8	140	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	113	61.5	139	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	123	61.9	137	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	125	63.0	144	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	135	61.0	139	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021143)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	96.6	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	105	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	106	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	96.2	54.8	124	



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021147)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	112	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	107	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	107	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	95.0	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023980)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.5	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	106	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	95.4	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	102	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.5	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.7	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023983)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	97.2	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	95.0	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	102	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	105	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	97.8	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	95.8	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023980)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.0	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132	

EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023983)



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023983) - continued									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	87.2	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	82.0	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	91.2	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	103	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	96.6	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	90.2	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	96.2	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	109	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023980)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.8	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.2	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.5	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.5	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023983)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	106	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	95.2	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	96.5	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.2	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	107	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	108	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023980)									



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023980) - continued								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	92.5	64.2	133
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023983)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	110	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	117	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	104	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	126	64.2	133
EP231P: PFAS Sums (QCLot: 5023980)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5023983)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Acceptable Limits (%)	
						Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021143)							
ET2302221-004	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	# Not Determined	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	# Not Determined	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	# Not Determined	70.0	132



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%) Low High	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021143) - continued							
ET2302221-004	Anonymous	EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	# Not Determined	59.0	134
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5021147)							
EB2312478-022	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	124	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	79.5	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	86.9	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	89.9	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	98.8	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021143)							
ET2302221-004	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	# Not Determined	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	# Not Determined	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	# Not Determined	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	# Not Determined	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	# Not Determined	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	92.0	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	92.0	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	96.0	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	76.0	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	88.0	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	86.5	69.0	133
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021147)					
EB2312478-022	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	89.4	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	125	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	101	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	98.1	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	87.3	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	84.8	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	86.4	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	118	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	130	69.0	135



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5021147) - continued							
EB2312478-022	Anonymous	EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.00125 mg/kg	92.4	66.0	139
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	95.4	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021143)							
ET2302221-004	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	# Not Determined	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	117	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	83.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	89.7	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	# Not Determined	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	88.0	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	84.0	61.0	139
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5021147)							
EB2312478-022	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	112	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	97.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	86.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	106	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	94.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	106	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	82.4	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021143)							
ET2302221-004	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	72.6	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	72.0	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	# Not Determined	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	79.2	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021147)							
EB2312478-022	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	88.5	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	68.7	64.0	140



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5021147) - continued							
EB2312478-022	Anonymous	EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	91.7	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	70.4	70.0	130

Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023980)							
ET2302222-002	0874_SW129_230421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	86.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	104	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	90.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	89.8	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023983)							
ET2302222-010	0874_SW125_230421	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	105	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	105	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	97.7	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	110	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023980)							
ET2302222-002	0874_SW129_230421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	88.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	85.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	97.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.25 µg/L	101	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023983)							
ET2302222-010	0874_SW125_230421	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	110	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	113	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	107	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	95.5	72.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023983) - continued							
ET2302222-010	0874_SW125_230421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.3	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	102	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	101	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	108	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	102	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	100	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	108	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023980)							
ET2302222-002	0874_SW129_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	112	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	80.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	81.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023983)							
ET2302222-010	0874_SW125_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	102	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	107	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	87.3	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	95.0	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	112	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	90.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023980)							
ET2302222-002	0874_SW129_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	106	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	107	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	105	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	74.5	70.0	130

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 Work Order : ET2302222
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_23 (v2)



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023983)							
ET2302222-010	0874_SW125_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	124	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	113	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	99.6	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	119	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2302222	Page	: 1 of 9
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23 (v2)	Date Samples Received	: 28-Apr-2023
Site	: QLD_0874 SW/SD	Issue Date	: 12-May-2023
Sampler	: [REDACTED]	No. of samples received	: 43
Order number	: 60612487_2.1	No. of samples analysed	: 43

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--002	Anonymous	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	31.2 %	0% - 20%	RPD exceeds LOR based limits
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--002	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	24.3 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	Anonymous	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	Anonymous	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	Anonymous	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	Anonymous	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302221--004	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	EB2312478--022	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302221--004	Anonymous	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302221--004	Anonymous	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302222--010	0874_SW125_230421	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302222--010	0874_SW125_230421	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421, 0874_QC111_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD121_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC108_230421	21-Apr-2023	----	----	----	02-May-2023	05-May-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_QC108_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421	21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD121_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421	0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC111_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	09-May-2023	12-Jun-2023	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_QC108_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421,	21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD121_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421,	0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC111_230421,	21-Apr-2023	03-May-2023	18-Oct-2023	✓	09-May-2023	12-Jun-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_QC108_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421,	21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD121_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421,	0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC111_230421,	21-Apr-2023	03-May-2023	18-Oct-2023	✓	09-May-2023	12-Jun-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_QC108_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421,	21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD121_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421,	0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC111_230421,	21-Apr-2023	03-May-2023	18-Oct-2023	✓	09-May-2023	12-Jun-2023	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X) 0874_SD127_230421, 0874_SD014_230421, 0874_SD017_230421, 0874_SD132_230421, 0874_SD125_230421, 0874_QC108_230421	0874_SD129_230421, 0874_SD112_230421, 0874_SD010_230421, 0874_SD123_230421, 0874_SD016_230421	21-Apr-2023	02-May-2023	18-Oct-2023	✓	08-May-2023	11-Jun-2023	✓
HDPE Soil Jar (EP231X) 0874_SD121_230421, 0874_SD102_230421, 0874_SD118_230421, 0874_SD116_230421, 0874_SD108_230421	0874_SD131_230421, 0874_SD117_230421, 0874_SD115_230421, 0874_SD109_230421, 0874_QC111_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	09-May-2023	12-Jun-2023	✓

Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW123_230421, 0874_SW016_230421, 0874_SW102_230421, 0874_SW118_230421, 0874_SW116_230421, 0874_SW108_230421, 0874_QC109_230421	0874_SW125_230421, 0874_SW131_230421, 0874_SW117_230421, 0874_SW115_230421, 0874_SW109_230421, 0874_QC304_230421, 0874_QC110_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✓	09-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW127_230421, 0874_SW014_230421, 0874_SW017_230421, 0874_SW010_230421	0874_SW129_230421, 0874_SW112_230421, 0874_SW121_230421, 0874_SW132_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✓	10-May-2023	18-Oct-2023	✓



Matrix: WATER

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW123_230421, 0874_SW016_230421, 0874_SW102_230421, 0874_SW118_230421, 0874_SW116_230421, 0874_SW108_230421, 0874_QC109_230421,	0874_SW125_230421, 0874_SW131_230421, 0874_SW117_230421, 0874_SW115_230421, 0874_SW109_230421, 0874_QC304_230421, 0874_QC110_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	09-May-2023	18-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW127_230421, 0874_SW014_230421, 0874_SW017_230421, 0874_SW010_230421,	0874_SW129_230421, 0874_SW112_230421, 0874_SW121_230421, 0874_SW132_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	10-May-2023	18-Oct-2023	✔
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW123_230421, 0874_SW016_230421, 0874_SW102_230421, 0874_SW118_230421, 0874_SW116_230421, 0874_SW108_230421, 0874_QC109_230421,	0874_SW125_230421, 0874_SW131_230421, 0874_SW117_230421, 0874_SW115_230421, 0874_SW109_230421, 0874_QC304_230421, 0874_QC110_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	09-May-2023	18-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW127_230421, 0874_SW014_230421, 0874_SW017_230421, 0874_SW010_230421,	0874_SW129_230421, 0874_SW112_230421, 0874_SW121_230421, 0874_SW132_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	10-May-2023	18-Oct-2023	✔
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW123_230421, 0874_SW016_230421, 0874_SW102_230421, 0874_SW118_230421, 0874_SW116_230421, 0874_SW108_230421, 0874_QC109_230421,	0874_SW125_230421, 0874_SW131_230421, 0874_SW117_230421, 0874_SW115_230421, 0874_SW109_230421, 0874_QC304_230421, 0874_QC110_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	09-May-2023	18-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_SW127_230421, 0874_SW014_230421, 0874_SW017_230421, 0874_SW010_230421,	0874_SW129_230421, 0874_SW112_230421, 0874_SW121_230421, 0874_SW132_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✔	10-May-2023	18-Oct-2023	✔



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_SW123_230421, 0874_SW016_230421, 0874_SW102_230421, 0874_SW118_230421, 0874_SW116_230421, 0874_SW108_230421, 0874_QC109_230421,	0874_SW125_230421, 0874_SW131_230421, 0874_SW117_230421, 0874_SW115_230421, 0874_SW109_230421, 0874_QC304_230421, 0874_QC110_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✓	09-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_SW127_230421, 0874_SW014_230421, 0874_SW017_230421, 0874_SW010_230421,	0874_SW129_230421, 0874_SW112_230421, 0874_SW121_230421, 0874_SW132_230421	21-Apr-2023	04-May-2023	18-Oct-2023	✓	10-May-2023	18-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	32	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	32	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	32	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	32	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	32	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	33	12.12	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	33	6.06	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2302222

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : ----
Facsimile : ----
Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1
C-O-C number : 51310
Site : QLD_0874 SW/SD
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]
Page : 1 of 4
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 -
Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 28-Apr-2023 00:00
Client Requested Due Date : 12-May-2023

Issue Date : 28-Apr-2023
Scheduled Reporting Date : **12-May-2023**

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 17

Security Seal : Intact.
Temperature : 7.) 2.3°C, 8.) 1.2°C, 9.)
3.8°C, 10.) 2.8°C - Ice
present

Receipt Detail : MEDIUM + SMALL

No. of samples received / analysed : 43 / 43

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- *Samples were originally received by Townsville on 26/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: SOIL

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2302222-021	21-Apr-2023 10:21	0874_SD127_230421	✓	✓
ET2302222-022	21-Apr-2023 10:22	0874_SD129_230421	✓	✓
ET2302222-023	21-Apr-2023 10:46	0874_SD014_230421	✓	✓
ET2302222-024	21-Apr-2023 10:21	0874_SD112_230421	✓	✓
ET2302222-025	21-Apr-2023 11:02	0874_SD017_230421	✓	✓
ET2302222-026	21-Apr-2023 14:32	0874_SD121_230421	✓	✓
ET2302222-027	21-Apr-2023 11:24	0874_SD010_230421	✓	✓
ET2302222-028	21-Apr-2023 11:37	0874_SD132_230421	✓	✓
ET2302222-029	21-Apr-2023 11:59	0874_SD123_230421	✓	✓
ET2302222-030	21-Apr-2023 12:32	0874_SD125_230421	✓	✓
ET2302222-031	21-Apr-2023 12:49	0874_SD016_230421	✓	✓
ET2302222-032	21-Apr-2023 13:02	0874_SD131_230421	✓	✓
ET2302222-033	21-Apr-2023 13:23	0874_SD102_230421	✓	✓
ET2302222-034	21-Apr-2023 15:05	0874_SD117_230421	✓	✓
ET2302222-035	21-Apr-2023 15:15	0874_SD118_230421	✓	✓
ET2302222-036	21-Apr-2023 15:31	0874_SD115_230421	✓	✓
ET2302222-037	21-Apr-2023 15:53	0874_SD116_230421	✓	✓
ET2302222-038	21-Apr-2023 16:05	0874_SD109_230421	✓	✓
ET2302222-039	21-Apr-2023 16:15	0874_SD108_230421	✓	✓
ET2302222-040	21-Apr-2023 10:47	0874_QC108_230421	✓	✓
ET2302222-043	21-Apr-2023 15:05	0874_QC111_230421	✓	✓



Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302222-001	21-Apr-2023 09:11	0874_SW127_230421	✓
ET2302222-002	21-Apr-2023 09:29	0874_SW129_230421	✓
ET2302222-003	21-Apr-2023 10:43	0874_SW014_230421	✓
ET2302222-004	21-Apr-2023 10:10	0874_SW112_230421	✓
ET2302222-005	21-Apr-2023 10:59	0874_SW017_230421	✓
ET2302222-006	21-Apr-2023 14:33	0874_SW121_230421	✓
ET2302222-007	21-Apr-2023 11:23	0874_SW010_230421	✓
ET2302222-008	21-Apr-2023 11:37	0874_SW132_230421	✓
ET2302222-009	21-Apr-2023 11:58	0874_SW123_230421	✓
ET2302222-010	21-Apr-2023 12:32	0874_SW125_230421	✓
ET2302222-011	21-Apr-2023 12:49	0874_SW016_230421	✓
ET2302222-012	21-Apr-2023 13:02	0874_SW131_230421	✓
ET2302222-013	21-Apr-2023 13:23	0874_SW102_230421	✓
ET2302222-014	21-Apr-2023 14:59	0874_SW117_230421	✓
ET2302222-015	21-Apr-2023 15:15	0874_SW118_230421	✓
ET2302222-016	21-Apr-2023 15:28	0874_SW115_230421	✓
ET2302222-017	21-Apr-2023 15:52	0874_SW116_230421	✓
ET2302222-018	21-Apr-2023 16:04	0874_SW109_230421	✓
ET2302222-019	21-Apr-2023 16:13	0874_SW108_230421	✓
ET2302222-020	21-Apr-2023 16:17	0874_QC304_230421	✓
ET2302222-041	21-Apr-2023 10:45	0874_QC109_230421	✓
ET2302222-042	21-Apr-2023 15:01	0874_QC110_230421	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



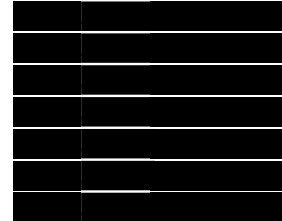
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

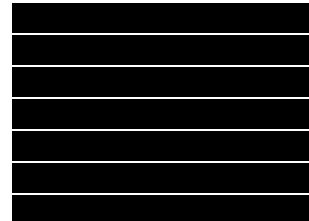
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DERP ESDAT REPORTS

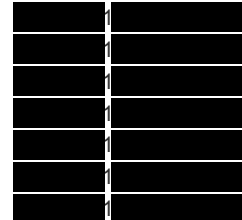
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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CERTIFICATE OF ANALYSIS

Work Order : ET2302250

Page : 1 of 11

Amendment : 3

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23 (v2)

Date Samples Received : 28-Apr-2023 09:04

Order number : 60612487_2.1

Date Analysis Commenced : 28-Apr-2023

C-O-C number : 51302

Issue Date : 30-Jun-2023 17:01

Sampler : [REDACTED]

Site : QLD_0874 FM

Quote number : TV/007/21 v2 - Compass

No. of samples received : 22

No. of samples analysed : 20



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories

Position

Accreditation Category

[REDACTED]

Assistant Laboratory Manager
Senior Organic Chemist

Brisbane Organics, Stafford, QLD
Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Amendment (17/05/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [REDACTED] on 17/05/2023, for samples ET2302250 sample 003. All analysis results are as per the previous report.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (24/05/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [REDACTED] on 23/05/2023, for samples ET2302250 sample 014. All analysis results are as per the previous report.
- Amendment (30/06/2023): This report has been amended as a result of a request to change sample date received from [REDACTED] on 29/06/2023, for samples ET2302250-008. All analysis results are as per the previous report.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: The LOR of PFBS for sample '0874_MW217_230421' (ET2302250-009) has been raised due to sample matrix interferences.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW239_230420	0874_MW225_230420	0874_MW220_230420	0874_MW267_230420	0874_MW219_230420
Sampling date / time					20-Apr-2023 13:50	20-Apr-2023 14:35	20-Apr-2023 15:00	20-Apr-2023 15:15	20-Apr-2023 15:51
Compound	CAS Number	LOR	Unit	ET2302250-001	ET2302250-002	ET2302250-003	ET2302250-004	ET2302250-005	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.02	0.40	<0.01	0.22	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.33	<0.01	0.16	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.02	0.40	<0.01	0.20	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.9	106	105	103	103	
13C8-PFOA	----	0.02	%	93.4	101	100	99.6	94.3	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC380_230420	0874_MW263_230421	0874_MW221_230421	0874_MW217_230421	0874_MW301_230421
Sampling date / time					20-Apr-2023 16:21	21-Apr-2023 10:33	21-Apr-2023 09:45	21-Apr-2023 10:59	21-Apr-2023 11:47
Compound	CAS Number	LOR	Unit	ET2302250-006	ET2302250-007	ET2302250-008	ET2302250-009	ET2302250-011	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.02	0.19	<0.06	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.07	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.11	0.39	<0.01	0.04	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.10	0.20	<0.01	0.14	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	0.03	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.04	0.08	<0.02	0.04	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.01	<0.01	<0.01	0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC380_230420	0874_MW263_230421	0874_MW221_230421	0874_MW217_230421	0874_MW301_230421
Sampling date / time					20-Apr-2023 16:21	21-Apr-2023 10:33	21-Apr-2023 09:45	21-Apr-2023 10:59	21-Apr-2023 11:47
Compound	CAS Number	LOR	Unit	ET2302250-006	ET2302250-007	ET2302250-008	ET2302250-009	ET2302250-011	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	0.06	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.28	0.93	0.06	0.26	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.21	0.59	<0.01	0.18	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.28	0.86	0.06	0.26	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	102	104	96.2	100	
13C8-PFOA	----	0.02	%	106	105	96.3	94.4	93.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW208_230421	0874_MW207_230421	0874_MW206_230421	0874_MW205_230421	0874_MW204_230421
Sampling date / time				21-Apr-2023 12:07	21-Apr-2023 12:31	21-Apr-2023 12:49	21-Apr-2023 13:08	21-Apr-2023 13:29	
Compound	CAS Number	LOR	Unit	ET2302250-012	ET2302250-013	ET2302250-014	ET2302250-015	ET2302250-016	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.23	0.03	5.30	0.07	0.02	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.17	0.03	3.02	0.05	0.02	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.23	0.03	4.83	0.07	0.02	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	94.5	91.9	99.0	92.8	
13C8-PFOA	----	0.02	%	92.7	97.1	91.6	92.4	90.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW216_230421	0874_MW264_230421	0874_MW215_230421	0874_MW214_230421	0874_QC381_230421
Sampling date / time				21-Apr-2023 14:52	21-Apr-2023 15:10	21-Apr-2023 15:32	21-Apr-2023 15:59	21-Apr-2023 16:00	
Compound	CAS Number	LOR	Unit	ET2302250-017	ET2302250-018	ET2302250-019	ET2302250-021	ET2302250-022	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.17	0.02	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.09	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.05	0.64	0.02	0.08	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	0.06	0.12	0.04	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.03	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.03	<0.02	0.03	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW216_230421	0874_MW264_230421	0874_MW215_230421	0874_MW214_230421	0874_QC381_230421
Sampling date / time				21-Apr-2023 14:52	21-Apr-2023 15:10	21-Apr-2023 15:32	21-Apr-2023 15:59	21-Apr-2023 16:00	
Compound	CAS Number	LOR	Unit	ET2302250-017	ET2302250-018	ET2302250-019	ET2302250-021	ET2302250-022	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.33	1.12	0.16	0.17	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.33	0.70	0.14	0.12	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.33	1.03	0.16	0.17	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	107	94.5	106	94.6	
13C8-PFOA	----	0.02	%	92.0	102	102	96.5	96.3	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : ET2302250

Page : 1 of 11

Amendment : 3

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23 (v2)

Date Samples Received : 28-Apr-2023

Order number : 60612487_2.1

Date Analysis Commenced : 28-Apr-2023

C-O-C number : 51302

Issue Date : 30-Jun-2023

Sampler : [REDACTED]

Site : QLD_0874 FM

Quote number : TV/007/21 v2 - Compass

No. of samples received : 22

No. of samples analysed : 20



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD
[REDACTED]	Senior Organic Chemist	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	145	138	5.5	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	757	785	3.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	18.0	17.7	1.6	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	19.6	18.5	5.6	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	29.6	29.5	0.3	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.43	<2.32	4.3	No Limit
ET2302221-017	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	0.13	18.9	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.08	0.09	15.4	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023971)									
ET2302220-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.08	0.08	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302250-013	0874_MW207_230421	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.03	40.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023971) - continued									
ET2302250-013	0874_MW207_230421	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	46.8	50.2	7.0	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	11.2	10.2	8.7	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	76.0	75.8	0.2	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	21.1	20.0	5.4	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	3.16	3.26	3.1	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<5.02	<4.88	3.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<12.1	<11.6	4.3	No Limit
ET2302221-017	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023971)									
ET2302220-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2302250-013	0874_MW207_230421	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023971) - continued									
ET2302250-013	0874_MW207_230421	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<5.02	<4.88	3.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<6.07	<5.81	4.3	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<6.07	<5.81	4.3	No Limit
ET2302221-017	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023971)									
ET2302220-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023971) - continued									
ET2302220-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302250-013	0874_MW207_230421	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.43	<2.32	4.3	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	682	814	17.7	0% - 20%
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	772	764	1.0	0% - 20%
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	11.0	10.7	3.0	No Limit
ET2302221-017	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023971)									
ET2302220-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023971) - continued									
ET2302220-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302250-013	0874_MW207_230421	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023964)									
EM2307462-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	2590	2740	5.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	902	923	2.3	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2530	2670	5.6	0% - 20%
ET2302221-017	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.27	0.31	13.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.18	0.22	20.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.27	0.31	13.8	0% - 20%
EP231P: PFAS Sums (QC Lot: 5023971)									
ET2302220-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.10	0.10	0.0	0% - 50%
ET2302250-013	0874_MW207_230421	EP231X: Sum of PFAS	----	0.01	µg/L	0.03	0.02	40.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.03	0.02	40.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.03	0.02	40.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023964)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	124	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	107	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	125	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	114	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.0	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	112	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023971)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	101	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	114	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	90.2	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	104	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	83.6	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	111	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023964)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	116	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	119	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	120	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	115	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	119	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	106	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	134	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	124	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	106	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	100	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	110	72.0	130	



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	95.2	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	91.8	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	98.8	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	97.6	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	92.6	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023964)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	112	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	118	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	108	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	119	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	127	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	101	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023971)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	97.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	97.6	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	94.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	102	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	116	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	116	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	93.2	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023964)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	117	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	122	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	98.3	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	110	64.2	133



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023971)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	109	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	110	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	123	64.2	133
EP231P: PFAS Sums (QCLot: 5023964)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5023971)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	88.0	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	114	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	70.2	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	82.5	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	115	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	87.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023971)							
ET2302220-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	113	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	119	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	104	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	109	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	94.9	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	112	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023964)							



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023964) - continued							
EM2307462-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	89.2	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	77.0	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	105	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	72.3	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	72.0	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	77.7	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	79.6	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	71.2	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	74.0	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	100	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	83.5	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023971)							
ET2302220-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.8	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	106	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	107	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	96.2	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	107	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	104	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	112	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	101	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	95.8	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	96.4	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	107	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	75.4	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	85.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	81.1	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	74.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	89.0	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.2	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	76.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023971)							
ET2302220-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	101	59.0	135



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023971) - continued							
ET2302220-002	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	113	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	80.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	115	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	96.9	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	99.6	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	97.4	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023964)							
EM2307462-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	74.0	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	# Not Determined	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	132	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	118	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023971)							
ET2302220-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	112	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	125	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	134	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	130	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order : ET2302250

Page : 1 of 6

Amendment : 3

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23 (v2)

Date Samples Received : 28-Apr-2023

Site : QLD_0874 FM

Issue Date : 30-Jun-2023

Sampler : [REDACTED]

No. of samples received : 22

Order number : 60612487_2.1

No. of samples analysed : 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	EM2307462--002	Anonymous	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW239_230420, 0874_MW220_230420, 0874_MW219_230420,	0874_MW225_230420, 0874_MW267_230420, 0874_QC380_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✔	04-May-2023	17-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW263_230421,	0874_MW221_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✔	04-May-2023	18-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW217_230421, 0874_MW208_230421, 0874_MW206_230421, 0874_MW204_230421, 0874_MW264_230421, 0874_MW214_230421,	0874_MW301_230421, 0874_MW207_230421, 0874_MW205_230421, 0874_MW216_230421, 0874_MW215_230421, 0874_QC381_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✔	08-May-2023	18-Oct-2023	✔



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW239_230420, 0874_MW220_230420, 0874_MW219_230420,	0874_MW225_230420, 0874_MW267_230420, 0874_QC380_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW263_230421,	0874_MW221_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW217_230421, 0874_MW208_230421, 0874_MW206_230421, 0874_MW204_230421, 0874_MW264_230421, 0874_MW214_230421,	0874_MW301_230421, 0874_MW207_230421, 0874_MW205_230421, 0874_MW216_230421, 0874_MW215_230421, 0874_QC381_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	08-May-2023	18-Oct-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW239_230420, 0874_MW220_230420, 0874_MW219_230420,	0874_MW225_230420, 0874_MW267_230420, 0874_QC380_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW263_230421,	0874_MW221_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW217_230421, 0874_MW208_230421, 0874_MW206_230421, 0874_MW204_230421, 0874_MW264_230421, 0874_MW214_230421,	0874_MW301_230421, 0874_MW207_230421, 0874_MW205_230421, 0874_MW216_230421, 0874_MW215_230421, 0874_QC381_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	08-May-2023	18-Oct-2023	✓
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW239_230420, 0874_MW220_230420, 0874_MW219_230420,	0874_MW225_230420, 0874_MW267_230420, 0874_QC380_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW263_230421,	0874_MW221_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW217_230421, 0874_MW208_230421, 0874_MW206_230421, 0874_MW204_230421, 0874_MW264_230421, 0874_MW214_230421,	0874_MW301_230421, 0874_MW207_230421, 0874_MW205_230421, 0874_MW216_230421, 0874_MW215_230421, 0874_QC381_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	08-May-2023	18-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW239_230420, 0874_MW220_230420, 0874_MW219_230420,	0874_MW225_230420, 0874_MW267_230420, 0874_QC380_230420	20-Apr-2023	03-May-2023	17-Oct-2023	✓	04-May-2023	17-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW263_230421,	0874_MW221_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	04-May-2023	18-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW217_230421, 0874_MW208_230421, 0874_MW206_230421, 0874_MW204_230421, 0874_MW264_230421, 0874_MW214_230421,	0874_MW301_230421, 0874_MW207_230421, 0874_MW205_230421, 0874_MW216_230421, 0874_MW215_230421, 0874_QC381_230421	21-Apr-2023	03-May-2023	18-Oct-2023	✓	08-May-2023	18-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ET2302250**
Amendment : **3**

Client : **AECOM AUSTRALIA PTY LTD**
Contact : [REDACTED]
Address : [REDACTED]

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]

Project : **QLD_0874_PFASOMP_23 (v2)**
Order number : **60612487_2.1**

C-O-C number : **51302**
Site : **QLD_0874 FM**
Sampler : [REDACTED]

Laboratory : **Environmental Division Townsville**
Contact : [REDACTED]
Address : [REDACTED]

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]

Page : **1 of 3**
Quote number : **ET2021AECOMAU0001 (TV/007/21 v2 - Compass)**
QC Level : **NEPM 2013 B3 & ALS QC Standard**

Dates

Date Samples Received : **28-Apr-2023 09:04**
Client Requested Due Date : **08-May-2023**
Issue Date : **30-Jun-2023**
Scheduled Reporting Date : **08-May-2023**

Delivery Details

Mode of Delivery : **Carrier**
No. of coolers/boxes : **17**
Security Seal : **Intact.**
Temperature : **7.) 2.3°C, 8.) 1.2°C, 9.) 3.8°C, 10.) 2.8°C - Ice present**
Receipt Detail : **MEDIUM + SMALL**
No. of samples received / analysed : **22 / 20**

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***17/05/2023***: SRN has been resent to acknowledge the update of client ID as per email request by [REDACTED] on the 17/05/2023. For any further information regarding these adjustments please contact client services at [REDACTED].
- ***24/05/2023***: SRN has been resent to acknowledge as per email request from [REDACTED] the sample ID for ALS #14 has been corrected to 0874_MW206_230421.
- **30/06/2023**: SRN has been resent to acknowledge as per email request from [REDACTED] the sample date for ALS #8 has been corrected to 21/04/2023.
- *Samples were originally received by Townsville on 26/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302250-001	20-Apr-2023 13:50	0874_MW239_230420		✓
ET2302250-002	20-Apr-2023 14:35	0874_MW225_230420		✓
ET2302250-003	20-Apr-2023 15:00	0874_MW220_230420		✓
ET2302250-004	20-Apr-2023 15:15	0874_MW267_230420		✓
ET2302250-005	20-Apr-2023 15:51	0874_MW219_230420		✓
ET2302250-006	20-Apr-2023 16:21	0874_QC380_230420		✓
ET2302250-007	21-Apr-2023 10:33	0874_MW263_230421		✓
ET2302250-008	21-Apr-2023 09:45	0874_MW221_230421		✓
ET2302250-009	21-Apr-2023 10:59	0874_MW217_230421		✓
ET2302250-010	21-Apr-2023 11:01	0874_QC153_230421	✓	
ET2302250-011	21-Apr-2023 11:47	0874_MW301_230421		✓
ET2302250-012	21-Apr-2023 12:07	0874_MW208_230421		✓
ET2302250-013	21-Apr-2023 12:31	0874_MW207_230421		✓
ET2302250-014	21-Apr-2023 12:49	0874_MW206_230421		✓
ET2302250-015	21-Apr-2023 13:08	0874_MW205_230421		✓
ET2302250-016	21-Apr-2023 13:29	0874_MW204_230421		✓
ET2302250-017	21-Apr-2023 14:52	0874_MW216_230421		✓
ET2302250-018	21-Apr-2023 15:10	0874_MW264_230421		✓
ET2302250-019	21-Apr-2023 15:32	0874_MW215_230421		✓
ET2302250-020	21-Apr-2023 15:34	0874_QC154_230421	✓	
ET2302250-021	21-Apr-2023 15:59	0874_MW214_230421		✓
ET2302250-022	21-Apr-2023 16:00	0874_QC381_230421		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231P: PFAS Sums
- (WATER) EP231S: PFAS Surrogate



CERTIFICATE OF ANALYSIS

Work Order : **ET2302252**
Client : **AECOM AUSTRALIA PTY LTD**
Contact : **[REDACTED]**
Address : **[REDACTED]**
Telephone : **[REDACTED]**
Project : **QLD_0874_PFASOMP_23 (v2)**
Order number : **60612487_2.1**
C-O-C number : **51432**
Sampler : **[REDACTED]**
Site : **QLD_0874 Wet season MT**
Quote number : **TV/007/21 v2 - Compass**
No. of samples received : **23**
No. of samples analysed : **22**

Page : 1 of 13
Laboratory : Environmental Division Townsville
Contact : **[REDACTED]**
Address : **[REDACTED]**
Telephone : **[REDACTED]**
Date Samples Received : 28-Apr-2023 09:04
Date Analysis Commenced : 28-Apr-2023
Issue Date : 11-May-2023 17:31



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231X PFAS: Particular samples required dilution due to the presence of high level contaminants and matrix interferences. LOR values have been adjusted accordingly.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: The LOR of PFTeDA for samples '0874_MW467_230425' (ET2302252-005) & '0874_QC115_230425' (ET2302252-008) have been raised due to sample matrix interferences.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW218_230425	0874_MW213_230425	0874_MW212_230425	0874_MW211_230425	0874_MW467_230425
Sampling date / time					25-Apr-2023 12:15	25-Apr-2023 12:14	25-Apr-2023 12:12	25-Apr-2023 12:13	25-Apr-2023 12:11
Compound	CAS Number	LOR	Unit	ET2302252-001	ET2302252-002	ET2302252-003	ET2302252-004	ET2302252-005	ET2302252-005
				Result	Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.25	<0.02	<0.02	0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	7.44	<0.01	0.01	0.04	0.02	0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.31	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.40	0.05	0.05	0.15	0.08	0.08
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.13	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.08	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.09	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	<0.01	0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.11	<0.05	<0.05	<0.12	<0.12
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.11	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.11	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW218_230425	0874_MW213_230425	0874_MW212_230425	0874_MW211_230425	0874_MW467_230425
Sampling date / time					25-Apr-2023 12:15	25-Apr-2023 12:14	25-Apr-2023 12:12	25-Apr-2023 12:13	25-Apr-2023 12:11
Compound	CAS Number	LOR	Unit	ET2302252-001	ET2302252-002	ET2302252-003	ET2302252-004	ET2302252-005	ET2302252-005
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.11	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.11	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.04	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	12.0	0.05	0.07	0.21	0.10	0.10
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	9.84	0.05	0.06	0.19	0.10	0.10
Sum of PFAS (WA DER List)	----	0.01	µg/L	11.5	0.05	0.07	0.21	0.10	0.10
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	107	109	115	94.1	110	110
13C8-PFOA	----	0.02	%	98.0	102	95.0	99.4	101	101



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_230425	0874_QC306_230425	0874_QC115_230425	0874_MW005_230426	0874_MW138_230426
Sampling date / time				25-Apr-2023 12:12	25-Apr-2023 12:14	25-Apr-2023 12:15	26-Apr-2023 14:55	26-Apr-2023 14:56	
Compound	CAS Number	LOR	Unit	ET2302252-006	ET2302252-007	ET2302252-008	ET2302252-010	ET2302252-011	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.02	<0.02	<0.02	43.2	94.5	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	75.4	123	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.04	<0.01	<0.01	835	789	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	89.2	80.6	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.11	<0.01	0.04	804	1080	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	14.5	38.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	30.6	56.2	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	186	257	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	20.5	30.1	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	35.1	61.4	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	0.24	<0.37	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.10	<0.56	<0.92	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.56	<0.92	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.56	<0.92	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW471_230425	0874_QC306_230425	0874_QC115_230425	0874_MW005_230426	0874_MW138_230426
Sampling date / time				25-Apr-2023 12:12	25-Apr-2023 12:14	25-Apr-2023 12:15	26-Apr-2023 14:55	26-Apr-2023 14:56	
Compound	CAS Number	LOR	Unit	ET2302252-006	ET2302252-007	ET2302252-008	ET2302252-010	ET2302252-011	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.56	<0.92	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.56	<0.92	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.22	<0.37	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.22	<0.37	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.22	2.56	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.22	<0.37	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.22	<0.37	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.17	<0.01	0.04	2130	2610	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.15	<0.01	0.04	1640	1870	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.17	<0.01	0.04	1970	2410	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	101	90.6	97.5	105	96.9	
13C8-PFOA	----	0.02	%	102	93.3	97.0	98.3	104	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW109_230426	0874_MW055_230426	0874_MW110_230426	0874_MW090_230426	0874_MW139_230426
Sampling date / time				26-Apr-2023 14:57	26-Apr-2023 14:58	26-Apr-2023 15:00	26-Apr-2023 15:00	26-Apr-2023 15:01	
Compound	CAS Number	LOR	Unit	ET2302252-012	ET2302252-013	ET2302252-014	ET2302252-015	ET2302252-016	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	60.2	4.29	5.23	0.03	29.6	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	66.7	4.68	7.95	0.04	31.9	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	480	33.1	131	0.69	198	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	56.2	2.46	5.86	0.06	24.6	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1510	94.8	114	2.79	619	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	24.4	<1.2	<2.3	<0.1	8.7	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	38.3	2.98	10.5	0.04	24.6	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	172	10.8	28.9	0.11	84.3	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	22.2	1.27	4.36	<0.02	13.9	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	45.5	3.71	7.45	0.02	25.4	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.83	<0.24	<0.45	<0.02	<0.91	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.08	<0.61	<1.14	<0.05	<2.27	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	1.00	0.63	<0.45	<0.02	<0.91	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.08	<0.61	<1.14	<0.05	<2.27	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.08	<0.61	<1.14	<0.05	<2.27	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW109_230426	0874_MW055_230426	0874_MW110_230426	0874_MW090_230426	0874_MW139_230426
Sampling date / time				26-Apr-2023 14:57	26-Apr-2023 14:58	26-Apr-2023 15:00	26-Apr-2023 15:00	26-Apr-2023 15:01	
Compound	CAS Number	LOR	Unit	ET2302252-012	ET2302252-013	ET2302252-014	ET2302252-015	ET2302252-016	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.08	<0.61	<1.14	<0.05	<2.27	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.08	<0.61	<1.14	<0.05	<2.27	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.83	<0.24	<0.45	<0.02	<0.91	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.83	<0.24	<0.45	<0.05	<0.91	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	12.8	<0.24	<0.45	<0.05	14.1	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.83	<0.24	<0.45	<0.05	<0.91	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.83	<0.24	<0.45	<0.05	<0.91	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2490	159	315	3.78	1070	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1990	128	245	3.48	817	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2360	151	301	3.68	1020	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	105	98.4	97.1	90.6	98.5	
13C8-PFOA	----	0.02	%	99.1	97.5	96.8	92.9	91.6	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_MW054_230426	0874_QC118_230426	0874_MW046_230426	0874_MW081_230426	0874_MW246_230426
Sampling date / time			26-Apr-2023 15:02	26-Apr-2023 15:03	26-Apr-2023 15:05	26-Apr-2023 15:05	26-Apr-2023 15:06	
Compound	CAS Number	LOR	Unit	ET2302252-017	ET2302252-018	ET2302252-019	ET2302252-020	ET2302252-021
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	2.00	37.1	5.64	65.4	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.21	58.6	11.6	111	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	13.3	920	161	1710	0.07
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.11	60.2	11.3	166	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	45.9	870	115	1960	0.10
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.5	9.2	1.8	<23.4	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.98	32.5	4.48	32.2	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.77	165	45.6	222	0.03
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.38	14.7	2.19	32.2	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.74	30.8	8.16	80.8	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<1.00	0.05	<4.67	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<2.50	<0.05	<11.7	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<1.00	0.03	<4.67	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<2.50	<0.05	<11.7	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<2.50	<0.05	<11.7	<0.05



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW054_230426	0874_QC118_230426	0874_MW046_230426	0874_MW081_230426	0874_MW246_230426
Sampling date / time				26-Apr-2023 15:02	26-Apr-2023 15:03	26-Apr-2023 15:05	26-Apr-2023 15:05	26-Apr-2023 15:06	
Compound	CAS Number	LOR	Unit	ET2302252-017	ET2302252-018	ET2302252-019	ET2302252-020	ET2302252-021	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<2.50	<0.05	<11.7	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<2.50	<0.05	<11.7	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<1.00	<0.02	<4.67	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<1.00	<0.05	<4.67	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<1.00	<0.05	19.2	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<1.00	<0.05	<4.67	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<1.00	<0.05	<4.67	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	70.4	2200	367	4400	0.20	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	59.2	1790	276	3670	0.17	
Sum of PFAS (WA DER List)	----	0.01	µg/L	67.1	2080	344	4120	0.20	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.5	100	85.5	98.0	95.6	
13C8-PFOA	----	0.02	%	96.3	99.2	98.9	101	93.4	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC117_230426	0874_QC307_230426	----	----	----
Sampling date / time				26-Apr-2023 15:07	26-Apr-2023 15:09	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302252-022	ET2302252-023	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	60.8	<0.02	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	67.6	<0.02	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	537	<0.01	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	51.8	<0.02	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1400	<0.01	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<2.51	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	19.1	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	47.5	<0.02	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	180	<0.02	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	19.8	<0.02	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	43.0	<0.01	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<2.51	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<2.51	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<2.51	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<2.51	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<2.51	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<6.28	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<2.51	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<6.28	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<6.28	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC117_230426	0874_QC307_230426	----	----	----
Sampling date / time				26-Apr-2023 15:07	26-Apr-2023 15:09	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302252-022	ET2302252-023	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<6.28	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<6.28	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<2.51	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<2.51	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<2.51	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	11.8	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<2.51	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<2.51	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	2440	<0.01	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	1940	<0.01	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2320	<0.01	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.5	94.5	----	----	----	
13C8-PFOA	----	0.02	%	96.8	97.7	----	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

(WATER) EP231A: Perfluoroalkyl Sulfonic Acids

(WATER) EP231B: Perfluoroalkyl Carboxylic Acids

(WATER) EP231C: Perfluoroalkyl Sulfonamides

(WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids

(WATER) EP231P: PFAS Sums

(WATER) EP231S: PFAS Surrogate



QUALITY CONTROL REPORT

Work Order : **ET2302252**

Client : **AECOM AUSTRALIA PTY LTD**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Project : **QLD_0874_PFASOMP_23 (v2)**

Order number : **60612487_2.1**

C-O-C number : **51432**

Sampler : [REDACTED]

Site : **QLD_0874 Wet season MT**

Quote number : **TV/007/21 v2 - Compass**

No. of samples received : **23**

No. of samples analysed : **22**

Page : 1 of 11

Laboratory : **Environmental Division Townsville**

Contact : [REDACTED]

Address : [REDACTED]

Telephone : [REDACTED]

Date Samples Received : **28-Apr-2023**

Date Analysis Commenced : **28-Apr-2023**

Issue Date : **11-May-2023**



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023979)									
ET2302220-025	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	16.2	15.8	3.1	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	23.9	22.4	6.1	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	3.18	2.72	15.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	3.40	3.16	7.2	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	1.12	1.10	2.1	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.04	0.0	No Limit
ET2302252-003	0874_MW212_230425	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.04	27.1	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023980)									
ET2302222-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.16	0.12	26.1	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302252-015	0874_MW090_230426	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.69	0.72	3.9	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	2.79	2.86	2.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.03	0.03	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.06	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5023980) - continued									
ET2302252-015	0874_MW090_230426	EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023979)									
ET2302220-025	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	2.17	2.21	1.6	0% - 20%
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	1.28	1.34	5.0	0% - 20%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	5.96	5.90	1.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	1.13	1.08	4.5	0% - 20%
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.8	0.9	0.0	No Limit
ET2302252-003	0874_MW212_230425	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.01	0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023980)									
ET2302222-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.03	0.04	34.4	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2302252-015	0874_MW090_230426	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.11	0.11	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5023980) - continued									
ET2302252-015	0874_MW090_230426	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023979)									
ET2302220-025	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.04	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.11	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.11	0.0	No Limit
ET2302252-003	0874_MW212_230425	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023980)									
ET2302222-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5023980) - continued									
ET2302222-001	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-015	0874_MW090_230426	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023979)									
ET2302220-025	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-003	0874_MW212_230425	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023980)									
ET2302222-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5023980) - continued									
ET2302222-001	Anonymous	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302252-015	0874_MW090_230426	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5023979)									
ET2302220-025	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	59.2	56.7	4.3	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	40.1	38.2	4.9	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	54.6	52.4	4.2	0% - 20%
ET2302252-003	0874_MW212_230425	EP231X: Sum of PFAS	----	0.01	µg/L	0.07	0.06	15.4	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.06	0.05	18.2	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.07	0.06	15.4	No Limit
EP231P: PFAS Sums (QC Lot: 5023980)									
ET2302222-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	0.21	0.18	15.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.21	0.18	15.4	0% - 20%
ET2302252-015	0874_MW090_230426	EP231X: Sum of PFAS	----	0.01	µg/L	3.78	3.88	2.6	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.48	3.58	2.8	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	3.68	3.78	2.7	0% - 20%



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023979)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	101	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	123	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	108	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	110	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	86.0	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	79.2	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023980)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	89.5	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	106	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	95.4	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	102	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	95.5	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	90.7	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023979)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	88.6	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	89.8	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	93.2	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	103	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	99.0	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	95.2	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	88.8	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	99.8	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	99.8	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	83.8	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023980)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	93.0	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	88.0	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	88.8	72.0	130



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
					LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023980) - continued								
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	90.4	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	106	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	109	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	105	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	88.6	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023979)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	113	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	77.1	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	91.2	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	89.7	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	113	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	100	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023980)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	99.8	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	120	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	84.2	60.5	138
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	87.5	68.3	134
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	99.5	62.6	138
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	103	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	94.6	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023979)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	102	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	100	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	101	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	91.7	64.2	133



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
						LCS	Low	High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023980)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	109	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	103	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	107	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	92.5	64.2	133
EP231P: PFAS Sums (QCLot: 5023979)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231P: PFAS Sums (QCLot: 5023980)								
EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFHxS and PFOS	355-46-4/17 63-23-1	0.01	µg/L	<0.01	----	----	----	----
EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Acceptable Limits (%)	
					MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023979)							
ET2302220-026	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	104	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	116	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	103	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	116	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	109	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5023980)							
ET2302222-002	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	86.8	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	97.0	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	94.8	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	104	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	90.5	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	89.8	53.0	142



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023979)							
ET2302220-026	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.9	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	99.9	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	101	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	97.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	105	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	104	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	93.8	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	119	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	108	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.4	71.0	132
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5023980)							
ET2302222-002	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	88.0	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	102	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	85.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	90.4	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	92.6	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	103	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	88.4	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	97.6	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	101	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	86.4	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023979)							
ET2302220-026	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	102	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	94.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	76.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	97.2	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	86.5	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	101	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	82.6	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023980)							
ET2302222-002	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	95.0	59.0	135



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5023980) - continued							
ET2302222-002	Anonymous	EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	112	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	88.6	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	80.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	81.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	93.4	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	88.8	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023979)							
ET2302220-026	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	108	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	126	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	115	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	128	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5023980)							
ET2302222-002	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	106	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	107	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	105	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	74.5	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ET2302252	Page	: 1 of 6
Client	: AECOM AUSTRALIA PTY LTD	Laboratory	: Environmental Division Townsville
Contact	: [REDACTED]	Telephone	: [REDACTED]
Project	: QLD_0874_PFASOMP_23 (v2)	Date Samples Received	: 28-Apr-2023
Site	: QLD_0874 Wet season MT	Issue Date	: 11-May-2023
Sampler	: [REDACTED]	No. of samples received	: 23
Order number	: 60612487_2.1	No. of samples analysed	: 22

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: WATER

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302220--026	Anonymous	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: WATER

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW218_230425, 0874_MW212_230425, 0874_MW467_230425, 0874_QC306_230425,	0874_MW213_230425, 0874_MW211_230425, 0874_MW471_230425, 0874_QC115_230425	25-Apr-2023	04-May-2023	22-Oct-2023	✔	09-May-2023	22-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW005_230426, 0874_MW109_230426	0874_MW138_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✔	09-May-2023	23-Oct-2023	✔
HDPE (no PTFE) (EP231X) 0874_MW055_230426, 0874_MW090_230426, 0874_MW054_230426, 0874_MW046_230426, 0874_MW246_230426, 0874_QC307_230426	0874_MW110_230426, 0874_MW139_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✔	10-May-2023	23-Oct-2023	✔



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_MW218_230425, 0874_MW212_230425, 0874_MW467_230425, 0874_QC306_230425,	0874_MW213_230425, 0874_MW211_230425, 0874_MW471_230425, 0874_QC115_230425	25-Apr-2023	04-May-2023	22-Oct-2023	✓	09-May-2023	22-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW005_230426, 0874_MW109_230426	0874_MW138_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	09-May-2023	23-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW055_230426, 0874_MW090_230426, 0874_MW054_230426, 0874_MW046_230426, 0874_MW246_230426, 0874_QC307_230426	0874_MW110_230426, 0874_MW139_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	10-May-2023	23-Oct-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_MW218_230425, 0874_MW212_230425, 0874_MW467_230425, 0874_QC306_230425,	0874_MW213_230425, 0874_MW211_230425, 0874_MW471_230425, 0874_QC115_230425	25-Apr-2023	04-May-2023	22-Oct-2023	✓	09-May-2023	22-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW005_230426, 0874_MW109_230426	0874_MW138_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	09-May-2023	23-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW055_230426, 0874_MW090_230426, 0874_MW054_230426, 0874_MW046_230426, 0874_MW246_230426, 0874_QC307_230426	0874_MW110_230426, 0874_MW139_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	10-May-2023	23-Oct-2023	✓



Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_MW218_230425, 0874_MW212_230425, 0874_MW467_230425, 0874_QC306_230425,	0874_MW213_230425, 0874_MW211_230425, 0874_MW471_230425, 0874_QC115_230425	25-Apr-2023	04-May-2023	22-Oct-2023	✓	09-May-2023	22-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW005_230426, 0874_MW109_230426	0874_MW138_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	09-May-2023	23-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW055_230426, 0874_MW090_230426, 0874_MW054_230426, 0874_MW046_230426, 0874_MW246_230426, 0874_QC307_230426	0874_MW110_230426, 0874_MW139_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	10-May-2023	23-Oct-2023	✓
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X) 0874_MW218_230425, 0874_MW212_230425, 0874_MW467_230425, 0874_QC306_230425,	0874_MW213_230425, 0874_MW211_230425, 0874_MW471_230425, 0874_QC115_230425	25-Apr-2023	04-May-2023	22-Oct-2023	✓	09-May-2023	22-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW005_230426, 0874_MW109_230426	0874_MW138_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	09-May-2023	23-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW055_230426, 0874_MW090_230426, 0874_MW054_230426, 0874_MW046_230426, 0874_MW246_230426, 0874_QC307_230426	0874_MW110_230426, 0874_MW139_230426, 0874_QC118_230426, 0874_MW081_230426, 0874_QC117_230426,	26-Apr-2023	04-May-2023	23-Oct-2023	✓	10-May-2023	23-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	38	10.53	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	2	38	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2302252

Client : AECOM AUSTRALIA PTY LTD

Contact : [REDACTED]

Address : [REDACTED]

E-mail : [REDACTED]

Telephone : ----

Facsimile : ----

Project : QLD_0874_PFASOMP_23 (v2)

Order number : 60612487_2.1

C-O-C number : 51432

Site : QLD_0874 Wet season MT

Sampler : [REDACTED]

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Address : [REDACTED]

E-mail : [REDACTED]

Telephone : [REDACTED]

Facsimile : [REDACTED]

Page : 1 of 3

Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)

QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 28-Apr-2023 09:04

Client Requested Due Date : 11-May-2023

Issue Date : 28-Apr-2023

Scheduled Reporting Date : **11-May-2023**

Delivery Details

Mode of Delivery : Carrier

No. of coolers/boxes : 17

Security Seal : Intact.

Temperature : 7.) 2.3°C, 8.) 1.2°C, 9.) 3.8°C, 10.) 2.8°C - Ice present

Receipt Detail : MEDIUM + SMALL

No. of samples received / analysed : 23 / 22

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- *Samples were originally received by Townsville on 26/04/2023 and have been forwarded to ALS Brisbane for analysis. Temperature on arrival in ALS Brisbane has been noted above.
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: WATER

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302252-001	25-Apr-2023 12:15	0874_MW218_230425		✓
ET2302252-002	25-Apr-2023 12:14	0874_MW213_230425		✓
ET2302252-003	25-Apr-2023 12:12	0874_MW212_230425		✓
ET2302252-004	25-Apr-2023 12:13	0874_MW211_230425		✓
ET2302252-005	25-Apr-2023 12:11	0874_MW467_230425		✓
ET2302252-006	25-Apr-2023 12:12	0874_MW471_230425		✓
ET2302252-007	25-Apr-2023 12:14	0874_QC306_230425		✓
ET2302252-008	25-Apr-2023 12:15	0874_QC115_230425		✓
ET2302252-009	25-Apr-2023 12:16	0874_QC116_230425	✓	
ET2302252-010	26-Apr-2023 14:55	0874_MW005_230426		✓
ET2302252-011	26-Apr-2023 14:56	0874_MW138_230426		✓
ET2302252-012	26-Apr-2023 14:57	0874_MW109_230426		✓
ET2302252-013	26-Apr-2023 14:58	0874_MW055_230426		✓
ET2302252-014	26-Apr-2023 15:00	0874_MW110_230426		✓
ET2302252-015	26-Apr-2023 15:00	0874_MW090_230426		✓
ET2302252-016	26-Apr-2023 15:01	0874_MW139_230426		✓
ET2302252-017	26-Apr-2023 15:02	0874_MW054_230426		✓
ET2302252-018	26-Apr-2023 15:03	0874_QC118_230426		✓
ET2302252-019	26-Apr-2023 15:05	0874_MW046_230426		✓
ET2302252-020	26-Apr-2023 15:05	0874_MW081_230426		✓
ET2302252-021	26-Apr-2023 15:06	0874_MW246_230426		✓
ET2302252-022	26-Apr-2023 15:07	0874_QC117_230426		✓
ET2302252-023	26-Apr-2023 15:09	0874_QC307_230426		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

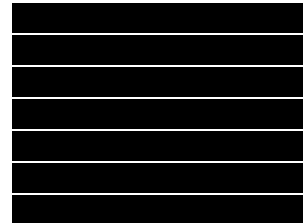
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DERP ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
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- *AU Certificate of Analysis - NATA (COA)
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- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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CERTIFICATE OF ANALYSIS

Work Order : ET2302407
Amendment : 2
Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]
Telephone : ----
Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1
C-O-C number : 51574
Sampler : [REDACTED]
Site : 0874_RAAF Wet season
Quote number : TV/007/21 v2 - Compass
No. of samples received : 75
No. of samples analysed : 75

Page : 1 of 35
Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]
Telephone : [REDACTED]
Date Samples Received : 09-May-2023 08:10
Date Analysis Commenced : 09-May-2023
Issue Date : 30-Jun-2023 17:19



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X PFAS: High LCS recovery deemed acceptable as all associated analyte results are less than LOR.
- EP231X PFAS: The LOR for particular analytes has been raised for samples '0874_SD110_230503' (ET2312407_021), '0874_SD111_230503' (ET2302407_026) and '0874_SD107_230503' (ET2302407_028) due to matrix interference.
- EP231X PFAS: Sample '0874_SD110_230503' (ET2302407_021) shows poor duplicate results due to sample heterogeneity. Confirmed by visual inspection.
- Amendment (17/05/2023): This report has been amended as a result of a request to change sample identification numbers (IDs) received from [REDACTED] on 17/05/2023, for samples ET2302407 sample 073. All analysis results are as per the previous report.
- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- Amendment (30/06/2023): This report has been amended as a result of a request to change sample date received from Moe Make on 29/06/2023, for samples ET2302407-073 and ET2302407-074. All analysis results are as per the previous report.
- 0240
- All analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- EP231X PFAS: Particular samples required dilution due to matrix interferences and the presence of high level contaminants. LOR values have been adjusted accordingly.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD110_230503	0874_SD111_230503	0874_SD107_230503	0874_SD113_230503	0874_SD021_230503
Sampling date / time				03-May-2023 10:58	03-May-2023 12:41	03-May-2023 13:10	03-May-2023 13:41	03-May-2023 14:19	
Compound	CAS Number	LOR	Unit	ET2302407-021	ET2302407-026	ET2302407-028	ET2302407-030	ET2302407-032	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	56.5	44.9	65.1	64.7	31.0	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0006	0.0006	0.0009	0.0009	<0.0002	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0008	0.0008	0.0014	0.0012	<0.0002	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0103	0.0135	0.0148	0.0136	0.0002	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0008	0.0016	0.0011	0.0014	<0.0002	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0546	0.0892	0.0552	0.0661	0.0005	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.0003	0.0003	0.0002	<0.0002	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0034	0.0032	0.0022	0.0016	<0.0002	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.0002	<0.0002	0.0002	<0.0002	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0005	0.0009	0.0006	0.0008	<0.0002	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0008	<0.0002	<0.0002	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	0.0003	<0.0002	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0013	<0.0005	<0.0013	<0.0005	<0.0005	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0013	<0.0005	<0.0013	<0.0005	<0.0005	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD110_230503	0874_SD111_230503	0874_SD107_230503	0874_SD113_230503	0874_SD021_230503
Sampling date / time				03-May-2023 10:58	03-May-2023 12:41	03-May-2023 13:10	03-May-2023 13:10	03-May-2023 13:41	03-May-2023 14:19
Compound	CAS Number	LOR	Unit	ET2302407-021	ET2302407-026	ET2302407-028	ET2302407-030	ET2302407-032	ET2302407-032
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0013	<0.0006	<0.0013	<0.0005	<0.0005	<0.0005
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0013	<0.0005	<0.0013	<0.0005	<0.0005	<0.0005
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	0.0710	0.110	0.0765	0.0863	0.0007	0.0007
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	0.0649	0.103	0.0700	0.0797	0.0007	0.0007
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	0.0694	0.108	0.0740	0.0834	0.0007	0.0007
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	84.0	76.5	77.5	86.5	88.5	88.5
13C8-PFOA	----	0.0002	%	107	100	102	102	106	106



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD120_230503	0874_SD201_230503	0874_QC121_230503	----	----
Sampling date / time				03-May-2023 14:35	03-May-2023 15:45	03-May-2023 15:46	----	----	
Compound	CAS Number	LOR	Unit	ET2302407-034	ET2302407-037	ET2302407-038	-----	-----	
				Result	Result	Result	----	----	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	22.6	22.5	19.2	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	<0.001	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	0874_SD120_230503	0874_SD201_230503	0874_QC121_230503	----	----
Sampling date / time				03-May-2023 14:35	03-May-2023 15:45	03-May-2023 15:46	----	----	
Compound	CAS Number	LOR	Unit	ET2302407-034	ET2302407-037	ET2302407-038	-----	-----	
				Result	Result	Result	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	<0.0005	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
Sum of PFAS (WA DER List)	----	0.0002	mg/kg	<0.0002	<0.0002	<0.0002	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.0002	%	97.0	80.0	97.0	----	----	
13C8-PFOA	----	0.0002	%	102	102	104	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW015_230427	0874_MW016_230427	0874_MW021_230427	0874_MW242_230427	0874_MW241_230427
Sampling date / time				27-Apr-2023 13:42	27-Apr-2023 14:00	27-Apr-2023 14:11	27-Apr-2023 14:43	27-Apr-2023 15:00	
Compound	CAS Number	LOR	Unit	ET2302407-001	ET2302407-002	ET2302407-003	ET2302407-004	ET2302407-005	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	114	17.4	216	<0.10	0.30	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	187	25.7	341	<0.10	0.27	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1600	240	5720	0.48	1.98	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	68.0	16.2	520	<0.10	<0.10	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	539	209	8940	0.21	0.31	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	26.0	5.0	71.8	<0.5	<0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	57.5	10.3	164	<0.10	<0.10	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	337	49.9	793	<0.10	0.38	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	30.5	5.59	100	<0.10	<0.10	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	53.5	11.6	286	<0.10	<0.10	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<2.27	<1.16	<22.7	<0.24	<0.24	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<2.27	<1.16	<22.7	<0.24	<0.24	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<2.27	<1.16	<22.7	<0.24	<0.24	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW015_230427	0874_MW016_230427	0874_MW021_230427	0874_MW242_230427	0874_MW241_230427
Sampling date / time					27-Apr-2023 13:42	27-Apr-2023 14:00	27-Apr-2023 14:11	27-Apr-2023 14:43	27-Apr-2023 15:00
Compound	CAS Number	LOR	Unit	ET2302407-001	ET2302407-002	ET2302407-003	ET2302407-004	ET2302407-005	ET2302407-005
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<2.27	<1.16	<22.7	<0.24	<0.24	<0.24
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<2.27	<1.16	<22.7	<0.24	<0.24	<0.24
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.91	<0.46	<9.09	<0.10	<0.10	<0.10
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3010	591	17200	0.69	3.24	3.24
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2140	449	14700	0.69	2.29	2.29
Sum of PFAS (WA DER List)	----	0.01	µg/L	2760	549	16300	0.69	2.97	2.97
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.9	98.9	93.4	98.7	99.0	99.0
13C8-PFOA	----	0.02	%	97.5	98.5	95.3	97.0	98.7	98.7



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	0874_QC119_230427	0874_MW004_230427	0874_MW122_230427	0874_MW002_230427	0874_QC308_230427
Sampling date / time			27-Apr-2023 15:01	27-Apr-2023 15:09	27-Apr-2023 15:19	27-Apr-2023 15:35	27-Apr-2023 15:42	
Compound	CAS Number	LOR	Unit	ET2302407-006	ET2302407-007	ET2302407-008	ET2302407-009	ET2302407-010
				Result	Result	Result	Result	Result
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.30	<0.10	0.03	1.14	<0.05
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.23	<0.10	<0.02	1.19	<0.05
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.92	<0.10	0.06	5.36	<0.05
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.10	<0.10	<0.02	0.14	<0.05
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.28	<0.10	<0.02	1.05	<0.05
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.5	<0.5	<0.1	0.2	<0.2
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.10	<0.10	<0.02	0.40	<0.05
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.39	<0.10	0.04	1.86	<0.05
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.10	<0.10	<0.02	0.13	<0.05
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.10	<0.10	<0.02	0.14	<0.05
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.25	<0.24	<0.06	<0.06	<0.12
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.25	<0.24	<0.06	<0.06	<0.12
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.25	<0.24	<0.06	<0.06	<0.12



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC119_230427	0874_MW004_230427	0874_MW122_230427	0874_MW002_230427	0874_QC308_230427
Sampling date / time					27-Apr-2023 15:01	27-Apr-2023 15:09	27-Apr-2023 15:19	27-Apr-2023 15:35	27-Apr-2023 15:42
Compound	CAS Number	LOR	Unit	ET2302407-006	ET2302407-007	ET2302407-008	ET2302407-009	ET2302407-010	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.25	<0.24	<0.06	<0.06	<0.12	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.25	<0.24	<0.06	<0.06	<0.12	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.10	<0.10	<0.02	<0.02	<0.05	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.10	<0.10	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.10	<0.10	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.10	<0.10	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.10	<0.10	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	3.12	<0.10	0.13	11.6	<0.05	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.20	<0.10	0.06	6.41	<0.05	
Sum of PFAS (WA DER List)	----	0.01	µg/L	2.89	<0.10	0.13	10.3	<0.05	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.8	92.0	97.9	103	96.9	
13C8-PFOA	----	0.02	%	97.1	94.6	100	101	98.8	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW118_230428	0874_MW140_230428	0874_MW250_230428	0874_MW251_230428	0874_MW057_230428
Sampling date / time				28-Apr-2023 09:44	28-Apr-2023 10:09	28-Apr-2023 10:42	28-Apr-2023 10:56	28-Apr-2023 12:34	
Compound	CAS Number	LOR	Unit	ET2302407-011	ET2302407-012	ET2302407-013	ET2302407-014	ET2302407-015	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.33	0.06	0.29	0.37	0.78	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.08	0.03	0.17	0.33	0.96	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.22	0.20	1.50	1.80	4.30	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.05	<0.02	0.03	0.10	0.21	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.40	0.02	0.26	1.44	1.73	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<0.1	<0.1	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.02	0.07	0.10	0.37	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.20	0.09	0.20	0.56	1.78	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.05	<0.02	<0.02	0.03	0.11	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.05	<0.01	<0.02	0.06	0.10	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.05	<0.06	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.05	<0.06	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.05	<0.06	<0.06	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW118_230428	0874_MW140_230428	0874_MW250_230428	0874_MW251_230428	0874_MW057_230428
Sampling date / time					28-Apr-2023 09:44	28-Apr-2023 10:09	28-Apr-2023 10:42	28-Apr-2023 10:56	28-Apr-2023 12:34
Compound	CAS Number	LOR	Unit	ET2302407-011	ET2302407-012	ET2302407-013	ET2302407-014	ET2302407-015	ET2302407-015
				Result	Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.05	<0.06	<0.06	<0.06	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.05	<0.06	<0.06	<0.06	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.11	<0.05	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	1.37	0.53	2.52	4.79	10.5	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.62	0.22	1.76	3.24	6.03	
Sum of PFAS (WA DER List)	----	0.01	µg/L	1.29	0.50	2.32	4.36	9.37	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	96.1	95.6	93.0	97.0	86.2	
13C8-PFOA	----	0.02	%	91.4	99.9	96.3	101	94.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_230428	0874_MW135_230428	0874_MW114_230428	0874_MW043_230428	0874_SW110_230503
Sampling date / time					28-Apr-2023 11:15	28-Apr-2023 12:13	28-Apr-2023 12:53	28-Apr-2023 13:02	03-May-2023 10:57
Compound	CAS Number	LOR	Unit	ET2302407-016	ET2302407-017	ET2302407-018	ET2302407-019	ET2302407-020	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.55	0.62	1.25	0.18	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.63	0.75	2.53	0.19	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.03	3.41	7.86	48.1	1.10	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.04	0.71	2.88	0.05	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.02	0.17	25.0	91.4	0.97	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.2	0.5	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.10	0.37	1.35	0.06	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.47	1.42	9.16	0.33	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.21	1.05	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.02	0.53	4.93	0.05	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.05	0.11	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.05	0.09	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW142_230428	0874_MW135_230428	0874_MW114_230428	0874_MW043_230428	0874_SW110_230503
Sampling date / time				28-Apr-2023 11:15	28-Apr-2023 12:13	28-Apr-2023 12:53	28-Apr-2023 13:02	03-May-2023 10:57	
Compound	CAS Number	LOR	Unit	ET2302407-016	ET2302407-017	ET2302407-018	ET2302407-019	ET2302407-020	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.12	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.05	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.05	5.39	37.5	163	2.96	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.05	3.58	32.9	140	2.07	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.05	4.72	36.0	158	2.72	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	93.5	93.8	95.6	89.9	
13C8-PFOA	----	0.02	%	97.0	99.9	97.8	97.8	95.7	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW201_230503	0874_MW202_230503	0874_MW203_230503	0874_SW111_230503	0874_SW107_230503
Sampling date / time				03-May-2023 11:35	03-May-2023 11:48	03-May-2023 12:11	03-May-2023 12:40	03-May-2023 13:09	
Compound	CAS Number	LOR	Unit	ET2302407-022	ET2302407-023	ET2302407-024	ET2302407-025	ET2302407-027	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	0.23	0.41	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	0.31	0.38	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.03	<0.01	1.92	2.29	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	0.08	0.07	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	1.17	1.16	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	0.12	0.09	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	0.67	0.59	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	0.06	0.03	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	0.10	0.07	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW201_230503	0874_MW202_230503	0874_MW203_230503	0874_SW111_230503	0874_SW107_230503
Sampling date / time				03-May-2023 11:35	03-May-2023 11:48	03-May-2023 12:11	03-May-2023 12:40	03-May-2023 13:09	
Compound	CAS Number	LOR	Unit	ET2302407-022	ET2302407-023	ET2302407-024	ET2302407-025	ET2302407-027	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	0.03	<0.01	4.66	5.09	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	0.03	<0.01	3.09	3.45	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	0.03	<0.01	4.27	4.64	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	97.9	97.3	104	96.5	
13C8-PFOA	----	0.02	%	102	99.1	107	98.1	98.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW113_230503	0874_SW021_230503	0874_SW120_230503	0874_SW201_230503	0874_QC120_230503
Sampling date / time				03-May-2023 13:40	03-May-2023 14:18	03-May-2023 14:34	03-May-2023 15:42	03-May-2023 15:44	
Compound	CAS Number	LOR	Unit	ET2302407-029	ET2302407-031	ET2302407-033	ET2302407-035	ET2302407-036	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.47	0.06	0.03	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.49	0.06	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	2.87	0.45	0.12	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.10	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.40	0.14	0.13	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.14	0.06	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.72	0.11	0.03	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.07	0.03	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.11	0.02	0.02	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_SW113_230503	0874_SW021_230503	0874_SW120_230503	0874_SW201_230503	0874_QC120_230503
Sampling date / time				03-May-2023 13:40	03-May-2023 14:18	03-May-2023 14:34	03-May-2023 15:42	03-May-2023 15:44	
Compound	CAS Number	LOR	Unit	ET2302407-029	ET2302407-031	ET2302407-033	ET2302407-035	ET2302407-036	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.37	0.93	0.33	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	4.27	0.59	0.25	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.78	0.87	0.33	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.2	96.9	92.3	97.9	99.3	
13C8-PFOA	----	0.02	%	101	99.8	101	104	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC309_230503	0874_MW136_230504	0874_MW265_230504	0874_MW243_230504	0874_MW244_230504
Sampling date / time				03-May-2023 17:21	04-May-2023 07:51	04-May-2023 09:49	04-May-2023 09:40	04-May-2023 09:28	
Compound	CAS Number	LOR	Unit	ET2302407-039	ET2302407-040	ET2302407-041	ET2302407-042	ET2302407-043	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.08	0.20	2.64	0.94	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.05	0.10	3.34	1.12	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.36	0.56	19.2	4.54	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.04	1.82	0.23	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.75	0.73	24.2	6.65	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	0.6	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.07	<0.02	1.04	0.27	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.17	0.06	5.69	1.56	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.03	<0.02	0.65	0.12	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.03	0.03	1.23	0.17	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC309_230503	0874_MW136_230504	0874_MW265_230504	0874_MW243_230504	0874_MW244_230504
Sampling date / time				03-May-2023 17:21	04-May-2023 07:51	04-May-2023 09:49	04-May-2023 09:40	04-May-2023 09:28	
Compound	CAS Number	LOR	Unit	ET2302407-039	ET2302407-040	ET2302407-041	ET2302407-042	ET2302407-043	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	<0.01	1.54	1.72	60.4	15.8	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	1.11	1.29	43.4	11.2	
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	1.49	1.58	55.2	14.4	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	93.9	97.6	98.2	92.4	99.9	
13C8-PFOA	----	0.02	%	97.8	95.5	106	107	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW056_230504	0874_MW234_230504	0874_MW255_230504	0874_MW235_230504	0874_MW112_230504
Sampling date / time					04-May-2023 10:12	04-May-2023 14:13	04-May-2023 14:25	04-May-2023 14:43	04-May-2023 10:32
Compound	CAS Number	LOR	Unit	ET2302407-044	ET2302407-045	ET2302407-046	ET2302407-047	ET2302407-048	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.05	<0.02	<0.02	0.04	2.24	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.99	<0.02	<0.02	0.02	3.71	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.10	0.01	0.01	0.10	33.8	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.03	<0.02	<0.02	<0.02	1.99	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.14	0.02	<0.01	0.05	25.5	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	<0.1	<0.1	<0.1	0.6	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.12	<0.02	<0.02	0.20	1.42	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.56	<0.02	<0.02	0.24	9.60	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	<0.02	<0.02	0.10	0.59	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	<0.01	<0.01	0.16	1.16	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW056_230504	0874_MW234_230504	0874_MW255_230504	0874_MW235_230504	0874_MW112_230504
Sampling date / time				04-May-2023 10:12	04-May-2023 14:13	04-May-2023 14:25	04-May-2023 14:43	04-May-2023 10:32	
Compound	CAS Number	LOR	Unit	ET2302407-044	ET2302407-045	ET2302407-046	ET2302407-047	ET2302407-048	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	6.24	0.03	0.01	0.91	80.6	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.24	0.03	0.01	0.15	59.3	
Sum of PFAS (WA DER List)	----	0.01	µg/L	5.22	0.03	0.01	0.89	74.9	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	94.9	94.5	101	97.9	87.8	
13C8-PFOA	----	0.02	%	98.1	107	106	98.1	95.9	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW245_230504	0874_MW248_230504	0874_MW061_230504	0874_MW232_230504	0874_MW224_230504
Sampling date / time				04-May-2023 10:25	04-May-2023 10:54	04-May-2023 12:01	04-May-2023 13:35	04-May-2023 13:42	
Compound	CAS Number	LOR	Unit	ET2302407-049	ET2302407-050	ET2302407-051	ET2302407-052	ET2302407-053	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	16.9	23.9	0.42	0.41	0.59	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	24.6	34.9	0.62	0.48	0.60	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	109	320	6.91	3.50	2.52	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	7.82	32.4	0.61	0.17	0.21	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	49.1	705	24.8	3.88	4.06	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	5.3	<5.0	<0.4	0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	10.1	10.8	0.26	0.13	0.11	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	47.4	73.2	1.39	0.37	0.29	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	7.78	6.00	0.19	0.05	0.04	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	9.84	25.0	0.74	0.12	0.08	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	0.27	<1.00	<0.09	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.56	<2.50	<0.23	<0.06	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.56	<2.50	<0.23	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.56	<2.50	<0.23	<0.06	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW245_230504	0874_MW248_230504	0874_MW061_230504	0874_MW232_230504	0874_MW224_230504
Sampling date / time				04-May-2023 10:25	04-May-2023 10:54	04-May-2023 12:01	04-May-2023 13:35	04-May-2023 13:42	
Compound	CAS Number	LOR	Unit	ET2302407-049	ET2302407-050	ET2302407-051	ET2302407-052	ET2302407-053	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.56	<2.50	<0.23	<0.06	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.56	<2.50	<0.23	<0.06	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.22	<1.00	<0.09	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.22	<1.00	<0.09	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.47	<1.00	<0.09	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	0.51	<1.00	<0.09	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.22	<1.00	<0.09	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	289	1230	35.9	9.21	8.70	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	158	1020	31.7	7.38	6.58	
Sum of PFAS (WA DER List)	----	0.01	µg/L	256	1160	34.7	8.56	7.89	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	97.9	83.7	101	100	104	
13C8-PFOA	----	0.02	%	94.8	97.0	101	96.3	94.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW223_230504	0874_MW009_230504	0874_MW247_230504	0874_MW125_230504	0874_MW038_230504
Sampling date / time				04-May-2023 13:16	04-May-2023 11:12	04-May-2023 11:02	04-May-2023 11:33	04-May-2023 11:45	
Compound	CAS Number	LOR	Unit	ET2302407-054	ET2302407-055	ET2302407-056	ET2302407-057	ET2302407-058	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.75	1.76	0.60	0.04	0.44	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.86	2.75	1.01	0.06	0.65	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.80	18.2	10.9	1.12	3.86	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.22	2.00	1.19	0.06	0.19	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	5.78	30.1	53.8	4.20	2.97	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.5	<0.2	<0.1	0.2	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.33	0.80	0.30	0.02	0.18	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.42	4.60	2.00	0.16	0.62	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.23	0.59	0.25	<0.02	0.14	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.30	1.90	1.05	0.04	0.21	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.11	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.27	2.08	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.11	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.11	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW223_230504	0874_MW009_230504	0874_MW247_230504	0874_MW125_230504	0874_MW038_230504
Sampling date / time				04-May-2023 13:16	04-May-2023 11:12	04-May-2023 11:02	04-May-2023 11:33	04-May-2023 11:45	
Compound	CAS Number	LOR	Unit	ET2302407-054	ET2302407-055	ET2302407-056	ET2302407-057	ET2302407-058	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.11	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.11	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.04	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	14.9	63.5	73.2	5.70	9.46	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	10.6	48.3	64.7	5.32	6.83	
Sum of PFAS (WA DER List)	----	0.01	µg/L	13.8	58.4	68.9	5.58	8.62	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	87.5	102	99.4	92.8	92.3	
13C8-PFOA	----	0.02	%	99.4	101	102	98.5	98.1	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_230504	0874_MW033_230504	0874_MW034_230504	0874_MW026_230504	0874_MW120_230504
Sampling date / time				04-May-2023 12:06	04-May-2023 12:36	04-May-2023 12:26	04-May-2023 13:08	04-May-2023 12:58	
Compound	CAS Number	LOR	Unit	ET2302407-059	ET2302407-060	ET2302407-061	ET2302407-062	ET2302407-063	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.97	0.96	4.40	0.30	1.39	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	1.55	1.02	4.06	0.29	1.73	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	9.72	6.99	11.0	2.94	10.8	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.76	0.53	0.62	0.48	0.81	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	16.0	15.8	2.78	18.2	21.2	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.35	<0.02	<0.04	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	0.3	0.5	<0.2	0.5	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.52	0.68	0.86	0.16	0.56	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	2.29	2.29	3.31	0.70	2.82	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.31	0.69	0.34	0.11	0.40	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.64	1.11	0.41	0.34	0.99	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.04	<0.02	<0.04	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.02	<0.02	<0.04	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.11	<0.06	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.31	<0.02	<0.04	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.06	<0.05	<0.11	<0.06	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.11	<0.06	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW063_230504	0874_MW033_230504	0874_MW034_230504	0874_MW026_230504	0874_MW120_230504
Sampling date / time				04-May-2023 12:06	04-May-2023 12:36	04-May-2023 12:26	04-May-2023 13:08	04-May-2023 12:58	
Compound	CAS Number	LOR	Unit	ET2302407-059	ET2302407-060	ET2302407-061	ET2302407-062	ET2302407-063	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.06	<0.05	<0.11	<0.06	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.06	<0.05	<0.11	<0.06	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.04	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	0.09	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	33.2	31.1	28.3	23.5	41.2	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	25.7	22.8	13.8	21.1	32.0	
Sum of PFAS (WA DER List)	----	0.01	µg/L	30.8	28.8	23.6	22.8	38.7	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	84.1	97.4	101	94.3	92.9	
13C8-PFOA	----	0.02	%	97.7	95.7	99.1	98.6	99.2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC123_230504	0874_MW300_230504	0874_MW229_230504	0874_MW227_230504	0874_MW226_230504
Sampling date / time				04-May-2023 13:20	04-May-2023 14:58	04-May-2023 15:23	04-May-2023 15:36	04-May-2023 15:42	
Compound	CAS Number	LOR	Unit	ET2302407-064	ET2302407-065	ET2302407-066	ET2302407-067	ET2302407-068	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.72	0.21	<0.02	0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.80	0.03	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.39	0.23	<0.01	0.07	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.20	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.85	0.13	<0.01	0.01	0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.3	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.38	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.42	0.03	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.21	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.29	0.04	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC123_230504	0874_MW300_230504	0874_MW229_230504	0874_MW227_230504	0874_MW226_230504
Sampling date / time				04-May-2023 13:20	04-May-2023 14:58	04-May-2023 15:23	04-May-2023 15:36	04-May-2023 15:42	
Compound	CAS Number	LOR	Unit	ET2302407-064	ET2302407-065	ET2302407-066	ET2302407-067	ET2302407-068	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.06	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	15.6	0.67	<0.01	0.10	0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	11.2	0.36	<0.01	0.08	0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	14.6	0.64	<0.01	0.10	0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	115	87.0	99.9	95.6	
13C8-PFOA	----	0.02	%	95.9	94.9	99.1	99.5	102	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW222_230504	0874_MW470_230504	0874_QC124_230504	0874_QC310_230504	0874_QC550_230504
Sampling date / time				04-May-2023 15:55	04-May-2023 16:22	04-May-2023 15:22	04-May-2023 16:47	04-May-2023 10:21	
Compound	CAS Number	LOR	Unit	ET2302407-069	ET2302407-070	ET2302407-071	ET2302407-072	ET2302407-073	
				Result	Result	Result	Result	Result	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.05	<0.02	<0.02	<0.02	<0.02	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.14	0.06	<0.01	<0.01	<0.01	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.24	0.23	<0.01	<0.01	<0.01	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_MW222_230504	0874_MW470_230504	0874_QC124_230504	0874_QC310_230504	0874_QC550_230504
Sampling date / time				04-May-2023 15:55	04-May-2023 16:22	04-May-2023 15:22	04-May-2023 16:47	04-May-2023 10:21	
Compound	CAS Number	LOR	Unit	ET2302407-069	ET2302407-070	ET2302407-071	ET2302407-072	ET2302407-073	
				Result	Result	Result	Result	Result	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	0.47	0.29	<0.01	<0.01	<0.01	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.38	0.29	<0.01	<0.01	<0.01	
Sum of PFAS (WA DER List)	----	0.01	µg/L	0.45	0.29	<0.01	<0.01	<0.01	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	104	104	97.4	99.7	93.7	
13C8-PFOA	----	0.02	%	106	104	110	112	103	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC122_230504	0874_QC551_230505	----	----	----
Sampling date / time				04-May-2023 11:10	05-May-2023 10:00	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302407-074	ET2302407-075	-----	-----	-----	
				Result	Result	----	----	----	
EP231A: Perfluoroalkyl Sulfonic Acids									
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	1.81	<0.02	----	----	----	
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	2.59	<0.02	----	----	----	
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	14.4	<0.01	----	----	----	
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	2.14	<0.02	----	----	----	
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	35.9	<0.01	----	----	----	
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231B: Perfluoroalkyl Carboxylic Acids									
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.5	<0.1	----	----	----	
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.72	<0.02	----	----	----	
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	3.82	<0.02	----	----	----	
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.60	<0.02	----	----	----	
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	1.81	<0.01	----	----	----	
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	----	----	----	
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides									
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	0.30	<0.02	----	----	----	
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	----	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	0874_QC122_230504	0874_QC551_230505	----	----	----
Sampling date / time				04-May-2023 11:10	05-May-2023 10:00	----	----	----	
Compound	CAS Number	LOR	Unit	ET2302407-074	ET2302407-075	-----	-----	-----	
				Result	Result	----	----	----	
EP231C: Perfluoroalkyl Sulfonamides - Continued									
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	----	----	----	
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	----	----	----	
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	----	----	----	
EP231D: (n:2) Fluorotelomer Sulfonic Acids									
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	----	----	----	
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	----	----	----	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	----	----	----	
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	----	----	----	
EP231P: PFAS Sums									
Sum of PFAS	----	0.01	µg/L	64.6	<0.01	----	----	----	
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	50.3	<0.01	----	----	----	
Sum of PFAS (WA DER List)	----	0.01	µg/L	59.6	<0.01	----	----	----	
EP231S: PFAS Surrogate									
13C4-PFOS	----	0.02	%	98.0	99.0	----	----	----	
13C8-PFOA	----	0.02	%	107	104	----	----	----	



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	76	136
13C8-PFOA	----	78	131

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP231S: PFAS Surrogate			
13C4-PFOS	----	65	140
13C8-PFOA	----	71	133

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231P: PFAS Sums
- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
- (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
- (WATER) EP231C: Perfluoroalkyl Sulfonamides
- (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (WATER) EP231S: PFAS Surrogate
- (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
- (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
- (SOIL) EP231C: Perfluoroalkyl Sulfonamides
- (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
- (SOIL) EP231P: PFAS Sums
- (SOIL) EP231S: PFAS Surrogate
- (SOIL) EA055: Moisture Content (Dried @ 105-110°C)



QUALITY CONTROL REPORT

Work Order : ET2302407

Page : 1 of 23

Amendment : 2

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Contact : [REDACTED]

Address : [REDACTED]

Address : [REDACTED]

Telephone : ----

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23 (v2)

Date Samples Received : 09-May-2023

Order number : 60612487_2.1

Date Analysis Commenced : 09-May-2023

C-O-C number : 51574

Issue Date : 30-Jun-2023

Sampler : [REDACTED]

Site : 0874_RAAF Wet season

Quote number : TV/007/21 v2 - Compass

No. of samples received : 75

No. of samples analysed : 75



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
[REDACTED]	Assistant Laboratory Manager	Brisbane Inorganics, Stafford, QLD
[REDACTED]	Assistant Laboratory Manager	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5038851)									
ET2302407-021	0874_SD110_230503	EA055: Moisture Content	----	0.1	%	56.5	56.5	0.0	0% - 20%
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5038850)									
ET2302407-021	0874_SD110_230503	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	0.0006	0.0006	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	0.0008	0.0008	0.0	No Limit
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	0.0103	0.0099	3.7	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	0.0008	0.0006	24.3	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	0.0546	0.0472	14.4	0% - 20%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5038850)									
ET2302407-021	0874_SD110_230503	EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	0.0034	# 0.0049	37.3	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	0.0005	0.0005	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	<0.0002	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0013	<0.0012	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	<0.001	0.0	No Limit
		EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5038850)							
ET2302407-021	0874_SD110_230503	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5038850) - continued									
ET2302407-021	0874_SD110_230503	EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0013	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0013	<0.0012	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0013	<0.0012	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5038850)									
ET2302407-021	0874_SD110_230503	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	<0.0005	0.0	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5040185)									
ET2302407-015	0874_MW057_230428	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	4.30	3.99	7.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	1.73	1.79	3.3	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.78	0.81	3.7	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.96	0.89	6.9	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.21	0.18	15.5	0% - 50%
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302407-017	0874_MW135_230428	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	3.41	3.49	2.2	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.17	0.20	16.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.55	0.57	2.6	0% - 20%
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.63	0.64	1.8	0% - 20%
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.04	0.05	25.5	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5040186)									
ET2302407-020	0874_SW110_230503	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.10	1.10	0.0	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.97	0.94	3.4	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.18	0.18	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5040186) - continued									
ET2302407-020	0874_SW110_230503	EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.19	0.19	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.05	0.05	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302407-036	0874_QC120_230503	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5040187)									
ET2302407-047	0874_MW235_230504	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	0.10	0.10	0.0	0% - 50%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	0.05	0.06	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
ET2302407-057	0874_MW125_230504	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.12	1.11	1.3	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	4.20	4.62	9.5	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.06	0.06	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.06	0.07	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 5040188)									
ET2302407-066	0874_MW229_230504	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040185)									
ET2302407-015	0874_MW057_230428	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.10	0.09	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.37	0.35	5.9	0% - 50%
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	1.78	1.71	4.1	0% - 20%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.11	0.10	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)		
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040185) - continued											
ET2302407-015	0874_MW057_230428	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	0.2	0.2	0.0	No Limit		
ET2302407-017	0874_MW135_230428	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.02	0.02	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.10	0.11	9.8	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.47	0.52	10.0	0% - 20%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit				
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040186)											
ET2302407-020	0874_SW110_230503	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.05	0.05	0.0	No Limit		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.06	0.06	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.33	0.34	4.2	0% - 50%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.03	0.03	0.0	No Limit		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit		
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit		
		ET2302407-036	0874_QC120_230503	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
				EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorononanoic acid (PFNA)	375-95-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8			0.02	µg/L	<0.02	<0.02	0.0	No Limit		
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7			0.05	µg/L	<0.05	<0.05	0.0	No Limit		
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit				
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040187)											
ET2302407-047	0874_MW235_230504	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.16	0.16	0.0	0% - 50%		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.20	0.19	0.0	No Limit		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.24	0.23	0.0	0% - 50%		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	0.10	0.10	0.0	No Limit		



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040187) - continued									
ET2302407-047	0874_MW235_230504	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
ET2302407-057	0874_MW125_230504	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.04	0.04	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	0.02	0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.16	0.16	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 5040188)									
ET2302407-066	0874_MW229_230504	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040185)									
ET2302407-015	0874_MW057_230428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040185) - continued									
ET2302407-015	0874_MW057_230428	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-017	0874_MW135_230428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040186)									
ET2302407-020	0874_SW110_230503	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-036	0874_QC120_230503	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040186) - continued									
ET2302407-036	0874_QC120_230503	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040187)									
ET2302407-047	0874_MW235_230504	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-057	0874_MW125_230504	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040188)									
ET2302407-066	0874_MW229_230504	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 5040188) - continued									
ET2302407-066	0874_MW229_230504	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5040185)									
ET2302407-015	0874_MW057_230428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-017	0874_MW135_230428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5040186)									
ET2302407-020	0874_SW110_230503	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-036	0874_QC120_230503	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5040187)									
ET2302407-047	0874_MW235_230504	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5040187) - continued									
ET2302407-047	0874_MW235_230504	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
ET2302407-057	0874_MW125_230504	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 5040188)									
ET2302407-066	0874_MW229_230504	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 5040185)									
ET2302407-015	0874_MW057_230428	EP231X: Sum of PFAS	----	0.01	µg/L	10.5	10.1	4.2	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	6.03	5.78	4.2	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	9.37	9.04	3.6	0% - 20%
ET2302407-017	0874_MW135_230428	EP231X: Sum of PFAS	----	0.01	µg/L	5.39	5.60	3.8	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	3.58	3.69	3.0	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	4.72	4.91	3.9	0% - 20%
EP231P: PFAS Sums (QC Lot: 5040186)									
ET2302407-020	0874_SW110_230503	EP231X: Sum of PFAS	----	0.01	µg/L	2.96	2.94	0.7	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	2.07	2.04	1.5	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	2.72	2.70	0.7	0% - 20%
ET2302407-036	0874_QC120_230503	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231P: PFAS Sums (QC Lot: 5040187)									
ET2302407-047	0874_MW235_230504	EP231X: Sum of PFAS	----	0.01	µg/L	0.91	0.88	3.4	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	0.15	0.16	6.5	0% - 50%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	0.89	0.88	1.1	0% - 20%
ET2302407-057	0874_MW125_230504	EP231X: Sum of PFAS	----	0.01	µg/L	5.70	6.12	7.1	0% - 20%
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	5.32	5.73	7.4	0% - 20%
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	5.58	5.99	7.1	0% - 20%
EP231P: PFAS Sums (QC Lot: 5040188)									
ET2302407-066	0874_MW229_230504	EP231X: Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	<0.01	0.0	No Limit
		EP231X: Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
				Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5038850)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0002	mg/kg	<0.0002	0.0011 mg/kg	104	72.0	128
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.0002	mg/kg	<0.0002	0.00117 mg/kg	118	73.0	123
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.0002	mg/kg	<0.0002	0.00118 mg/kg	94.5	67.0	130
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.0002	mg/kg	<0.0002	0.00119 mg/kg	103	70.0	132
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.0002	mg/kg	<0.0002	0.00116 mg/kg	86.2	68.0	136
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0002	mg/kg	<0.0002	0.0012 mg/kg	91.7	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5038850)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.001	mg/kg	<0.001	0.00625 mg/kg	87.4	71.0	135
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.0002	mg/kg	<0.0002	0.00125 mg/kg	94.4	69.0	132
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	70.0	132
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	98.4	71.0	131
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	91.6	69.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	114	72.0	129
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	69.0	133
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	105	64.0	136
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.0002	mg/kg	<0.0002	0.00125 mg/kg	112	69.0	135
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0002	mg/kg	<0.0002	0.00125 mg/kg	109	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	102	69.0	133
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5038850)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	102	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.0005	mg/kg	<0.0005	0.00312 mg/kg	108	59.6	143
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	99.5	62.8	140
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.0005	mg/kg	<0.0005	0.00312 mg/kg	99.5	61.5	139
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.0005	mg/kg	<0.0005	0.00312 mg/kg	106	61.9	137
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.0002	mg/kg	<0.0002	0.00125 mg/kg	104	63.0	144
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.0002	mg/kg	<0.0002	0.00125 mg/kg	100	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5038850)								



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5038850) - continued									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.0005	mg/kg	<0.0005	0.00117 mg/kg	84.2	62.0	145	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.0005	mg/kg	<0.0005	0.00118 mg/kg	108	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0005	mg/kg	<0.0005	0.0012 mg/kg	81.7	65.0	137	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0005	mg/kg	<0.0005	0.0012 mg/kg	# 126	54.8	124	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040185)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	115	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	112	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	113	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	125	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	119	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	116	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040186)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	107	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	127	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	113	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	109	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.7	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	102	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040187)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	108	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	125	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	112	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	106	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	90.5	65.0	140	
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	87.8	53.0	142	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040188)									
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.2218 µg/L	105	72.0	130	
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.2352 µg/L	120	71.0	127	
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.2373 µg/L	112	68.0	131	
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.238 µg/L	103	69.0	134	
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.232 µg/L	98.7	65.0	140	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040188) - continued									
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.241 µg/L	97.5	53.0	142	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040185)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	118	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	123	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	114	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	111	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	127	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	129	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	131	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	124	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	139	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	115	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040186)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	114	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	98.0	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	104	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	109	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	108	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	104	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	113	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	121	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	104	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040187)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	97.5	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	94.2	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	97.4	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	99.6	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	103	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	107	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	97.2	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	94.4	69.0	133	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040187) - continued									
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	112	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	117	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	103	71.0	132	
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040188)									
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	110	73.0	129	
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	105	72.0	129	
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	107	72.0	129	
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	109	72.0	130	
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	115	71.0	133	
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	109	69.0	130	
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	107	71.0	129	
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	101	69.0	133	
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	111	72.0	134	
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	123	65.0	144	
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	107	71.0	132	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040185)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	121	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	127	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	117	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	112	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	121	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	116	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040186)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	103	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	116	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	119	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	107	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	101	62.6	138	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Acceptable Limits (%)	
						LCS	Low	High	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040186) - continued									
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	99.0	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	110	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040187)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	105	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	109	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	104	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	106	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	92.7	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	111	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	97.8	61.0	135	
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040188)									
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	104	67.0	137	
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	115	68.0	141	
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	124	60.5	138	
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	108	68.3	134	
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	110	62.6	138	
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	102	65.0	136	
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	106	61.0	135	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040185)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	138	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	131	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	132	67.0	138	
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.241 µg/L	130	64.2	133	
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040186)									
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.2343 µg/L	105	63.0	143	
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.2378 µg/L	130	64.0	140	
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.24 µg/L	111	67.0	138	



Sub-Matrix: **WATER**

Method: Compound				CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report		
								Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040186) - continued										
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)										
120226-60-0 0.05 µg/L <0.05 0.241 µg/L 116 64.2 133										
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040187)										
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)										
757124-72-4 0.05 µg/L <0.05 0.2343 µg/L 104 63.0 143										
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)										
27619-97-2 0.05 µg/L <0.05 0.2378 µg/L 130 64.0 140										
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)										
39108-34-4 0.05 µg/L <0.05 0.24 µg/L 102 67.0 138										
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)										
120226-60-0 0.05 µg/L <0.05 0.241 µg/L 127 64.2 133										
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040188)										
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)										
757124-72-4 0.05 µg/L <0.05 0.2343 µg/L 109 63.0 143										
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)										
27619-97-2 0.05 µg/L <0.05 0.2378 µg/L 110 64.0 140										
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)										
39108-34-4 0.05 µg/L <0.05 0.24 µg/L 112 67.0 138										
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)										
120226-60-0 0.05 µg/L <0.05 0.241 µg/L 127 64.2 133										
EP231P: PFAS Sums (QCLot: 5040185)										
EP231X: Sum of PFAS										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231X: Sum of PFHxS and PFOS										
355-46-4/17 0.01 µg/L <0.01 ---- ---- ----										
63-23-1										
EP231X: Sum of PFAS (WA DER List)										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231P: PFAS Sums (QCLot: 5040186)										
EP231X: Sum of PFAS										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231X: Sum of PFHxS and PFOS										
355-46-4/17 0.01 µg/L <0.01 ---- ---- ----										
63-23-1										
EP231X: Sum of PFAS (WA DER List)										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231P: PFAS Sums (QCLot: 5040187)										
EP231X: Sum of PFAS										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231X: Sum of PFHxS and PFOS										
355-46-4/17 0.01 µg/L <0.01 ---- ---- ----										
63-23-1										
EP231X: Sum of PFAS (WA DER List)										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231P: PFAS Sums (QCLot: 5040188)										
EP231X: Sum of PFAS										
---- 0.01 µg/L <0.01 ---- ---- ----										
EP231X: Sum of PFHxS and PFOS										
355-46-4/17 0.01 µg/L <0.01 ---- ---- ----										
63-23-1										
EP231X: Sum of PFAS (WA DER List)										
---- 0.01 µg/L <0.01 ---- ---- ----										

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5038850)							
ET2302407-026	0874_SD111_230503	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.0011 mg/kg	106	72.0	128
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.00117 mg/kg	113	73.0	123
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.00118 mg/kg	# Not Determined	67.0	130
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.00119 mg/kg	117	70.0	132
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.00116 mg/kg	# Not Determined	68.0	136
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.0012 mg/kg	99.6	59.0	134
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5038850)							
ET2302407-026	0874_SD111_230503	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.00625 mg/kg	101	71.0	135
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.00125 mg/kg	114	69.0	132
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.00125 mg/kg	129	70.0	132
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.00125 mg/kg	98.8	71.0	131
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.00125 mg/kg	102	69.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.00125 mg/kg	123	72.0	129
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.00125 mg/kg	107	69.0	133
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.00125 mg/kg	121	64.0	136
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.00125 mg/kg	128	69.0	135
		EP231X: Perfluorotridecanoic acid (PFTTrDA)	72629-94-8	0.00125 mg/kg	126	66.0	139
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.00312 mg/kg	108	69.0	133		
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5038850)							
ET2302407-026	0874_SD111_230503	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.00125 mg/kg	119	48.0	128
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.00312 mg/kg	123	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.00312 mg/kg	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.00312 mg/kg	95.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.00312 mg/kg	111	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.00125 mg/kg	124	63.0	144
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.00125 mg/kg	116	61.0	139
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5038850)							
ET2302407-026	0874_SD111_230503	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.00117 mg/kg	93.6	62.0	145
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.00118 mg/kg	108	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.0012 mg/kg	118	65.0	137
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.0012 mg/kg	75.0	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040185)							
ET2302407-016	0874_MW142_230428	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	94.7	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	109	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	97.7	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	100	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	88.8	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	85.5	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040186)							
ET2302407-022	0874_MW201_230503	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	120	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	127	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	120	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	122	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	110	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	111	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040187)							
ET2302407-048	0874_MW112_230504	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	# Not Determined	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	# Not Determined	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	# Not Determined	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	# Not Determined	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	# Not Determined	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	118	53.0	142
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 5040188)							
ET2302407-067	0874_MW227_230504	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.2218 µg/L	111	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.235 µg/L	118	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.2352 µg/L	118	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.238 µg/L	119	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.232 µg/L	107	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.241 µg/L	109	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040185)							
ET2302407-016	0874_MW142_230428	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	94.5	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	98.4	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	92.8	72.0	129
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	89.8	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	91.0	71.0	133



Sub-Matrix: WATER

				Matrix Spike (MS) Report					
				Spike	SpikeRecovery(%)	Acceptable Limits (%)			
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040185) - continued									
ET2302407-016	0874_MW142_230428	EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	97.6	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	95.6	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	92.4	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	91.8	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	102	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	90.5	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040186)									
ET2302407-022	0874_MW201_230503	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	107	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	101	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	110	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	109	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	111	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	111	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	111	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	113	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	112	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	119	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	110	71.0	132		
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040187)									
ET2302407-048	0874_MW112_230504	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	92.5	73.0	129		
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	# Not Determined	72.0	129		
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	# Not Determined	72.0	129		
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	91.2	72.0	130		
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	# Not Determined	71.0	133		
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	101	69.0	130		
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	93.6	71.0	129		
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	85.8	69.0	133		
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	98.7	72.0	134		
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	97.4	65.0	144		
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	93.3	71.0	132		
		EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040188)							
		ET2302407-067	0874_MW227_230504	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	114	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3			0.25 µg/L	102	72.0	129		
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4			0.25 µg/L	109	72.0	129		
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9			0.25 µg/L	112	72.0	130		



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 5040188) - continued							
ET2302407-067	0874_MW227_230504	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	121	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	109	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	118	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	109	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	117	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	126	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	112	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040185)							
ET2302407-016	0874_MW142_230428	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	98.0	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	110	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	94.4	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	86.4	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	102	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	90.0	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	89.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040186)							
ET2302407-022	0874_MW201_230503	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	110	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	122	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	107	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	119	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	109	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	117	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	107	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040187)							
ET2302407-048	0874_MW112_230504	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	91.8	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	92.5	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	89.1	70.0	130



Sub-Matrix: WATER

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040187) - continued							
ET2302407-048	0874_MW112_230504	EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	103	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	82.7	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	95.8	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	86.8	61.0	135
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 5040188)							
ET2302407-067	0874_MW227_230504	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	117	59.0	135
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	125	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	114	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	121	70.0	130
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	113	70.0	130
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	116	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	126	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040185)							
ET2302407-016	0874_MW142_230428	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	105	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	102	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	108	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	103	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040186)							
ET2302407-022	0874_MW201_230503	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	106	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	127	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	124	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	127	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040187)							
ET2302407-048	0874_MW112_230504	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	90.8	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	89.5	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	92.9	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	125	70.0	130
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040188)							
ET2302407-067	0874_MW227_230504	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.234 µg/L	122	63.0	143

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 Work Order : ET2302407 Amendment 2
 Client : AECOM AUSTRALIA PTY LTD
 Project : QLD_0874_PFASOMP_23 (v2)



Sub-Matrix: **WATER**

				<i>Matrix Spike (MS) Report</i>			
				<i>Spike</i>	<i>SpikeRecovery(%)</i>	<i>Acceptable Limits (%)</i>	
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Concentration</i>	<i>MS</i>	<i>Low</i>	<i>High</i>
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 5040188) - continued							
ET2302407-067	0874_MW227_230504	EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.2378 µg/L	110	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.24 µg/L	135	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.2415 µg/L	126	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

Work Order : ET2302407

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Amendment : 2

Client : AECOM AUSTRALIA PTY LTD

Laboratory : Environmental Division Townsville

Contact : [REDACTED]

Telephone : [REDACTED]

Project : QLD_0874_PFASOMP_23 (v2)

Date Samples Received : 09-May-2023

Site : 0874_RAAF Wet season

Issue Date : 30-Jun-2023

Sampler : [REDACTED]

No. of samples received : 75

Order number : 60612487_2.1

No. of samples analysed : 75

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Laboratory Control outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302407--021	0874_SD110_230503	Perfluorohexanoic acid (PFHxA)	307-24-4	37.3 %	0% - 20%	RPD exceeds LOR based limits
Laboratory Control Spike (LCS) Recoveries							
EP231D: (n:2) Fluorotelomer Sulfonic Acids	QC-5038850-002	----	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	126 %	54.8-124%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--026	0874_SD111_230503	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--026	0874_SD111_230503	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--048	0874_MW112_230504	Perfluorobutane sulfonic acid (PFBS)	375-73-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--048	0874_MW112_230504	Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--048	0874_MW112_230504	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--048	0874_MW112_230504	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231A: Perfluoroalkyl Sulfonic Acids	ET2302407--048	0874_MW112_230504	Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302407--048	0874_MW112_230504	Perfluoropentanoic acid (PFPeA)	2706-90-3	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302407--048	0874_MW112_230504	Perfluorohexanoic acid (PFHxA)	307-24-4	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.



Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP231B: Perfluoroalkyl Carboxylic Acids	ET2302407--048	0874_MW112_230504	Perfluorooctanoic acid (PFOA)	335-67-1	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
HDPE Soil Jar (EA055) 0874_SD110_230503, 0874_SD107_230503, 0874_SD021_230503, 0874_SD201_230503,	0874_SD111_230503, 0874_SD113_230503, 0874_SD120_230503, 0874_QC121_230503	03-May-2023	----	----	----	10-May-2023	17-May-2023	✓
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE Soil Jar (EP231X) 0874_SD110_230503, 0874_SD107_230503, 0874_SD021_230503, 0874_SD201_230503,	0874_SD111_230503, 0874_SD113_230503, 0874_SD120_230503, 0874_QC121_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	20-Jun-2023	✓
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE Soil Jar (EP231X) 0874_SD110_230503, 0874_SD107_230503, 0874_SD021_230503, 0874_SD201_230503,	0874_SD111_230503, 0874_SD113_230503, 0874_SD120_230503, 0874_QC121_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	20-Jun-2023	✓
EP231C: Perfluoroalkyl Sulfonamides								
HDPE Soil Jar (EP231X) 0874_SD110_230503, 0874_SD107_230503, 0874_SD021_230503, 0874_SD201_230503,	0874_SD111_230503, 0874_SD113_230503, 0874_SD120_230503, 0874_QC121_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	20-Jun-2023	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE Soil Jar (EP231X)								
0874_SD110_230503,	0874_SD111_230503,	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	20-Jun-2023	✓
0874_SD107_230503,	0874_SD113_230503,							
0874_SD021_230503,	0874_SD120_230503,							
0874_SD201_230503,	0874_QC121_230503							
EP231P: PFAS Sums								
HDPE Soil Jar (EP231X)								
0874_SD110_230503,	0874_SD111_230503,	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	20-Jun-2023	✓
0874_SD107_230503,	0874_SD113_230503,							
0874_SD021_230503,	0874_SD120_230503,							
0874_SD201_230503,	0874_QC121_230503							

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW110_230503, 0874_MW202_230503, 0874_SW111_230503, 0874_SW113_230503, 0874_SW120_230503, 0874_QC120_230503,	0874_MW201_230503, 0874_MW203_230503, 0874_SW107_230503, 0874_SW021_230503, 0874_SW201_230503, 0874_QC309_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	30-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW136_230504, 0874_MW243_230504, 0874_MW056_230504, 0874_MW255_230504, 0874_MW112_230504, 0874_MW248_230504, 0874_MW232_230504, 0874_MW223_230504, 0874_MW247_230504, 0874_MW038_230504, 0874_MW033_230504, 0874_MW026_230504, 0874_QC123_230504,	0874_MW265_230504, 0874_MW244_230504, 0874_MW234_230504, 0874_MW235_230504, 0874_MW245_230504, 0874_MW061_230504, 0874_MW224_230504, 0874_MW009_230504, 0874_MW125_230504, 0874_MW063_230504, 0874_MW034_230504, 0874_MW120_230504, 0874_MW300_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	15-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW229_230504, 0874_MW226_230504, 0874_MW470_230504, 0874_QC310_230504, 0874_QC122_230504	0874_MW227_230504, 0874_MW222_230504, 0874_QC124_230504, 0874_QC550_230504,	04-May-2023	11-May-2023	31-Oct-2023	✓	16-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC551_230505		05-May-2023	11-May-2023	01-Nov-2023	✓	16-May-2023	01-Nov-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW015_230427, 0874_MW021_230427, 0874_MW241_230427, 0874_MW004_230427, 0874_MW002_230427,	0874_MW016_230427, 0874_MW242_230427, 0874_QC119_230427, 0874_MW122_230427, 0874_QC308_230427	27-Apr-2023	10-May-2023	24-Oct-2023	✓	15-May-2023	24-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW118_230428, 0874_MW250_230428, 0874_MW057_230428, 0874_MW135_230428, 0874_MW043_230428	0874_MW140_230428, 0874_MW251_230428, 0874_MW142_230428, 0874_MW114_230428,	28-Apr-2023	10-May-2023	25-Oct-2023	✓	15-May-2023	25-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X) 0874_SW110_230503, 0874_MW202_230503, 0874_SW111_230503, 0874_SW113_230503, 0874_SW120_230503, 0874_QC120_230503,	0874_MW201_230503, 0874_MW203_230503, 0874_SW107_230503, 0874_SW021_230503, 0874_SW201_230503, 0874_QC309_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	30-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW136_230504, 0874_MW243_230504, 0874_MW056_230504, 0874_MW255_230504, 0874_MW112_230504, 0874_MW248_230504, 0874_MW232_230504, 0874_MW223_230504, 0874_MW247_230504, 0874_MW038_230504, 0874_MW033_230504, 0874_MW026_230504, 0874_QC123_230504,	0874_MW265_230504, 0874_MW244_230504, 0874_MW234_230504, 0874_MW235_230504, 0874_MW245_230504, 0874_MW061_230504, 0874_MW224_230504, 0874_MW009_230504, 0874_MW125_230504, 0874_MW063_230504, 0874_MW034_230504, 0874_MW120_230504, 0874_MW300_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	15-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW229_230504, 0874_MW226_230504, 0874_MW470_230504, 0874_QC310_230504, 0874_QC122_230504	0874_MW227_230504, 0874_MW222_230504, 0874_QC124_230504, 0874_QC550_230504,	04-May-2023	11-May-2023	31-Oct-2023	✓	16-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC551_230505		05-May-2023	11-May-2023	01-Nov-2023	✓	16-May-2023	01-Nov-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW015_230427, 0874_MW021_230427, 0874_MW241_230427, 0874_MW004_230427, 0874_MW002_230427,	0874_MW016_230427, 0874_MW242_230427, 0874_QC119_230427, 0874_MW122_230427, 0874_QC308_230427	27-Apr-2023	10-May-2023	24-Oct-2023	✓	15-May-2023	24-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW118_230428, 0874_MW250_230428, 0874_MW057_230428, 0874_MW135_230428, 0874_MW043_230428	0874_MW140_230428, 0874_MW251_230428, 0874_MW142_230428, 0874_MW114_230428,	28-Apr-2023	10-May-2023	25-Oct-2023	✓	15-May-2023	25-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X) 0874_SW110_230503, 0874_MW202_230503, 0874_SW111_230503, 0874_SW113_230503, 0874_SW120_230503, 0874_QC120_230503,	0874_MW201_230503, 0874_MW203_230503, 0874_SW107_230503, 0874_SW021_230503, 0874_SW201_230503, 0874_QC309_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	30-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW136_230504, 0874_MW243_230504, 0874_MW056_230504, 0874_MW255_230504, 0874_MW112_230504, 0874_MW248_230504, 0874_MW232_230504, 0874_MW223_230504, 0874_MW247_230504, 0874_MW038_230504, 0874_MW033_230504, 0874_MW026_230504, 0874_QC123_230504,	0874_MW265_230504, 0874_MW244_230504, 0874_MW234_230504, 0874_MW235_230504, 0874_MW245_230504, 0874_MW061_230504, 0874_MW224_230504, 0874_MW009_230504, 0874_MW125_230504, 0874_MW063_230504, 0874_MW034_230504, 0874_MW120_230504, 0874_MW300_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	15-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW229_230504, 0874_MW226_230504, 0874_MW470_230504, 0874_QC310_230504, 0874_QC122_230504	0874_MW227_230504, 0874_MW222_230504, 0874_QC124_230504, 0874_QC550_230504,	04-May-2023	11-May-2023	31-Oct-2023	✓	16-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC551_230505		05-May-2023	11-May-2023	01-Nov-2023	✓	16-May-2023	01-Nov-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW015_230427, 0874_MW021_230427, 0874_MW241_230427, 0874_MW004_230427, 0874_MW002_230427,	0874_MW016_230427, 0874_MW242_230427, 0874_QC119_230427, 0874_MW122_230427, 0874_QC308_230427	27-Apr-2023	10-May-2023	24-Oct-2023	✓	15-May-2023	24-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW118_230428, 0874_MW250_230428, 0874_MW057_230428, 0874_MW135_230428, 0874_MW043_230428	0874_MW140_230428, 0874_MW251_230428, 0874_MW142_230428, 0874_MW114_230428,	28-Apr-2023	10-May-2023	25-Oct-2023	✓	15-May-2023	25-Oct-2023	✓



Matrix: WATER Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X) 0874_SW110_230503, 0874_MW202_230503, 0874_SW111_230503, 0874_SW113_230503, 0874_SW120_230503, 0874_QC120_230503,	0874_MW201_230503, 0874_MW203_230503, 0874_SW107_230503, 0874_SW021_230503, 0874_SW201_230503, 0874_QC309_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	30-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW136_230504, 0874_MW243_230504, 0874_MW056_230504, 0874_MW255_230504, 0874_MW112_230504, 0874_MW248_230504, 0874_MW232_230504, 0874_MW223_230504, 0874_MW247_230504, 0874_MW038_230504, 0874_MW033_230504, 0874_MW026_230504, 0874_QC123_230504,	0874_MW265_230504, 0874_MW244_230504, 0874_MW234_230504, 0874_MW235_230504, 0874_MW245_230504, 0874_MW061_230504, 0874_MW224_230504, 0874_MW009_230504, 0874_MW125_230504, 0874_MW063_230504, 0874_MW034_230504, 0874_MW120_230504, 0874_MW300_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	15-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW229_230504, 0874_MW226_230504, 0874_MW470_230504, 0874_QC310_230504, 0874_QC122_230504	0874_MW227_230504, 0874_MW222_230504, 0874_QC124_230504, 0874_QC550_230504,	04-May-2023	11-May-2023	31-Oct-2023	✓	16-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC551_230505		05-May-2023	11-May-2023	01-Nov-2023	✓	16-May-2023	01-Nov-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW015_230427, 0874_MW021_230427, 0874_MW241_230427, 0874_MW004_230427, 0874_MW002_230427,	0874_MW016_230427, 0874_MW242_230427, 0874_QC119_230427, 0874_MW122_230427, 0874_QC308_230427	27-Apr-2023	10-May-2023	24-Oct-2023	✓	15-May-2023	24-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW118_230428, 0874_MW250_230428, 0874_MW057_230428, 0874_MW135_230428, 0874_MW043_230428	0874_MW140_230428, 0874_MW251_230428, 0874_MW142_230428, 0874_MW114_230428,	28-Apr-2023	10-May-2023	25-Oct-2023	✓	15-May-2023	25-Oct-2023	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums							
HDPE (no PTFE) (EP231X) 0874_SW110_230503, 0874_MW202_230503, 0874_SW111_230503, 0874_SW113_230503, 0874_SW120_230503, 0874_QC120_230503, 0874_MW201_230503, 0874_MW203_230503, 0874_SW107_230503, 0874_SW021_230503, 0874_SW201_230503, 0874_QC309_230503	03-May-2023	11-May-2023	30-Oct-2023	✓	15-May-2023	30-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW136_230504, 0874_MW243_230504, 0874_MW056_230504, 0874_MW255_230504, 0874_MW112_230504, 0874_MW248_230504, 0874_MW232_230504, 0874_MW223_230504, 0874_MW247_230504, 0874_MW038_230504, 0874_MW033_230504, 0874_MW026_230504, 0874_QC123_230504, 0874_MW265_230504, 0874_MW244_230504, 0874_MW234_230504, 0874_MW235_230504, 0874_MW245_230504, 0874_MW061_230504, 0874_MW224_230504, 0874_MW009_230504, 0874_MW125_230504, 0874_MW063_230504, 0874_MW034_230504, 0874_MW120_230504, 0874_MW300_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	15-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW229_230504, 0874_MW226_230504, 0874_MW470_230504, 0874_QC310_230504, 0874_QC122_230504, 0874_MW227_230504, 0874_MW222_230504, 0874_QC124_230504, 0874_QC550_230504	04-May-2023	11-May-2023	31-Oct-2023	✓	16-May-2023	31-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_QC551_230505	05-May-2023	11-May-2023	01-Nov-2023	✓	16-May-2023	01-Nov-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW015_230427, 0874_MW021_230427, 0874_MW241_230427, 0874_MW004_230427, 0874_MW002_230427, 0874_MW016_230427, 0874_MW242_230427, 0874_QC119_230427, 0874_MW122_230427, 0874_QC308_230427	27-Apr-2023	10-May-2023	24-Oct-2023	✓	15-May-2023	24-Oct-2023	✓
HDPE (no PTFE) (EP231X) 0874_MW118_230428, 0874_MW250_230428, 0874_MW057_230428, 0874_MW135_230428, 0874_MW043_230428, 0874_MW140_230428, 0874_MW251_230428, 0874_MW142_230428, 0874_MW114_230428	28-Apr-2023	10-May-2023	25-Oct-2023	✓	15-May-2023	25-Oct-2023	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	7	67	10.45	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	67	5.97	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	67	5.97	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	4	67	5.97	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	SOIL	In-house: Analysis of soils by solvent extraction followed by LC-Electrospray-MS-MS, Negative Mode using MRM using internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to a portion of soil which is then extracted with MTBE and an ion pairing reagent. A portion of extract is exchanged into the analytical solvent mixture, combined with an equal volume reagent water and filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.
Preparation Methods	Method	Matrix	Method Descriptions
QuEChERS Extraction of Solids	ORG71	SOIL	In house: Sequential extractions with Acetonitrile/Methanol by shaking. Extraction efficiency aided by the addition of salts under acidic conditions. Where relevant, interferences from co-extracted organics are removed with dispersive clean-up media (dSPE). The extract is either diluted or concentrated and exchanged into the analytical solvent.
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : ET2302407
Amendment : 2

Client : AECOM AUSTRALIA PTY LTD
Contact : [REDACTED]
Address : [REDACTED]

E-mail : [REDACTED]
Telephone : ----
Facsimile : ----

Project : QLD_0874_PFASOMP_23 (v2)
Order number : 60612487_2.1

C-O-C number : 51574
Site : 0874_RAAF Wet season
Sampler : [REDACTED]

Laboratory : Environmental Division Townsville
Contact : [REDACTED]
Address : [REDACTED]

E-mail : [REDACTED]
Telephone : [REDACTED]
Facsimile : [REDACTED]

Page : 1 of 5
Quote number : ET2021AECOMAU0001 (TV/007/21 v2 - Compass)
QC Level : NEPM 2013 B3 & ALS QC Standard

Dates

Date Samples Received : 09-May-2023 08:10
Client Requested Due Date : 16-May-2023
Issue Date : 30-Jun-2023
Scheduled Reporting Date : **16-May-2023**

Delivery Details

Mode of Delivery : Carrier
No. of coolers/boxes : 2
Receipt Detail : HARD ESKY

Security Seal : Intact.
Temperature : 7.1°C / 1.3°C - Ice present
No. of samples received / analysed : 75 / 75

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- ***Samples were originally received by ALS TOWNSVILLE on 08/05/2023, and forwarded to ALS Brisbane for analysis.**
- ***17/05/2023*: SRN has been resent to acknowledge the update of client ID as per email request by [REDACTED] on the 17/05/2023. For any further information regarding these adjustments please contact client services at [REDACTED]**
- **30/06/2023: SRN has been resent to acknowledge as per email request from [REDACTED] the sample date has been corrected for ALS #73 & 74.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- All analysis will be conducted by ALS Environmental, Brisbane, NATA accreditation no. 825, Site No. 818.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Sampling date / time	Sample ID	SOIL - EA055-103 Moisture Content	SOIL - EP231X (solids) PFAS - Full Suite (28 analytes)
ET2302407-021	03-May-2023 10:58	0874_SD110_230503	✓	✓
ET2302407-026	03-May-2023 12:41	0874_SD111_230503	✓	✓
ET2302407-028	03-May-2023 13:10	0874_SD107_230503	✓	✓
ET2302407-030	03-May-2023 13:41	0874_SD113_230503	✓	✓
ET2302407-032	03-May-2023 14:19	0874_SD021_230503	✓	✓
ET2302407-034	03-May-2023 14:35	0874_SD120_230503	✓	✓
ET2302407-037	03-May-2023 15:45	0874_SD201_230503	✓	✓
ET2302407-038	03-May-2023 15:46	0874_QC121_230503	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EP231X PFAS - Full Suite (28 analytes)
ET2302407-001	27-Apr-2023 13:42	0874_MW015_230427	✓
ET2302407-002	27-Apr-2023 14:00	0874_MW016_230427	✓
ET2302407-003	27-Apr-2023 14:11	0874_MW021_230427	✓
ET2302407-004	27-Apr-2023 14:43	0874_MW242_230427	✓
ET2302407-005	27-Apr-2023 15:00	0874_MW241_230427	✓
ET2302407-006	27-Apr-2023 15:01	0874_QC119_230427	✓
ET2302407-007	27-Apr-2023 15:09	0874_MW004_230427	✓
ET2302407-008	27-Apr-2023 15:19	0874_MW122_230427	✓
ET2302407-009	27-Apr-2023 15:35	0874_MW002_230427	✓
ET2302407-010	27-Apr-2023 15:42	0874_QC308_230427	✓
ET2302407-011	28-Apr-2023 09:44	0874_MW118_230428	✓
ET2302407-012	28-Apr-2023 10:09	0874_MW140_230428	✓
ET2302407-013	28-Apr-2023 10:42	0874_MW250_230428	✓
ET2302407-014	28-Apr-2023 10:56	0874_MW251_230428	✓
ET2302407-015	28-Apr-2023 12:34	0874_MW057_230428	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

ET2302407-016	28-Apr-2023 11:15	0874_MW142_230428	✓
ET2302407-017	28-Apr-2023 12:13	0874_MW135_230428	✓
ET2302407-018	28-Apr-2023 12:53	0874_MW114_230428	✓
ET2302407-019	28-Apr-2023 13:02	0874_MW043_230428	✓
ET2302407-020	03-May-2023 10:57	0874_SW110_230503	✓
ET2302407-022	03-May-2023 11:35	0874_MW201_230503	✓
ET2302407-023	03-May-2023 11:48	0874_MW202_230503	✓
ET2302407-024	03-May-2023 12:11	0874_MW203_230503	✓
ET2302407-025	03-May-2023 12:40	0874_SW111_230503	✓
ET2302407-027	03-May-2023 13:09	0874_SW107_230503	✓
ET2302407-029	03-May-2023 13:40	0874_SW113_230503	✓
ET2302407-031	03-May-2023 14:18	0874_SW021_230503	✓
ET2302407-033	03-May-2023 14:34	0874_SW120_230503	✓
ET2302407-035	03-May-2023 15:42	0874_SW201_230503	✓
ET2302407-036	03-May-2023 15:44	0874_QC120_230503	✓
ET2302407-039	03-May-2023 17:21	0874_QC309_230503	✓
ET2302407-040	04-May-2023 07:51	0874_MW136_230504	✓
ET2302407-041	04-May-2023 09:49	0874_MW265_230504	✓
ET2302407-042	04-May-2023 09:40	0874_MW243_230504	✓
ET2302407-043	04-May-2023 09:28	0874_MW244_230504	✓
ET2302407-044	04-May-2023 10:12	0874_MW056_230504	✓
ET2302407-045	04-May-2023 14:13	0874_MW234_230504	✓
ET2302407-046	04-May-2023 14:25	0874_MW255_230504	✓
ET2302407-047	04-May-2023 14:43	0874_MW235_230504	✓
ET2302407-048	04-May-2023 10:32	0874_MW112_230504	✓
ET2302407-049	04-May-2023 10:25	0874_MW245_230504	✓
ET2302407-050	04-May-2023 10:54	0874_MW248_230504	✓
ET2302407-051	04-May-2023 12:01	0874_MW061_230504	✓
ET2302407-052	04-May-2023 13:35	0874_MW232_230504	✓
ET2302407-053	04-May-2023 13:42	0874_MW224_230504	✓
ET2302407-054	04-May-2023 13:16	0874_MW223_230504	✓
ET2302407-055	04-May-2023 11:12	0874_MW009_230504	✓
ET2302407-056	04-May-2023 11:02	0874_MW247_230504	✓
ET2302407-057	04-May-2023 11:33	0874_MW125_230504	✓
ET2302407-058	04-May-2023 11:45	0874_MW038_230504	✓
ET2302407-059	04-May-2023 12:06	0874_MW063_230504	✓
ET2302407-060	04-May-2023 12:36	0874_MW033_230504	✓
ET2302407-061	04-May-2023 12:26	0874_MW034_230504	✓
ET2302407-062	04-May-2023 13:08	0874_MW026_230504	✓
ET2302407-063	04-May-2023 12:58	0874_MW120_230504	✓
ET2302407-064	04-May-2023 13:20	0874_QC123_230504	✓



WATER - EP231X
PFAS - Full Suite (28 analytes)

ET2302407-065	04-May-2023 14:58	0874_MW300_230504	✓
ET2302407-066	04-May-2023 15:23	0874_MW229_230504	✓
ET2302407-067	04-May-2023 15:36	0874_MW227_230504	✓
ET2302407-068	04-May-2023 15:42	0874_MW226_230504	✓
ET2302407-069	04-May-2023 15:55	0874_MW222_230504	✓
ET2302407-070	04-May-2023 16:22	0874_MW470_230504	✓
ET2302407-071	04-May-2023 15:22	0874_QC124_230504	✓
ET2302407-072	04-May-2023 16:47	0874_QC310_230504	✓
ET2302407-073	04-May-2023 10:21	0874_QC550_230504	✓
ET2302407-074	04-May-2023 11:10	0874_QC122_230504	✓
ET2302407-075	05-May-2023 10:00	0874_QC551_230505	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Email



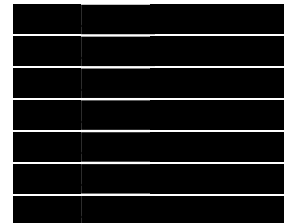
- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - EQUIS V5 AECOM (EQUIS_V5_AECOM)
- EDI Format - ESDAT (ESDAT)

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DERP ESDAT REPORTS

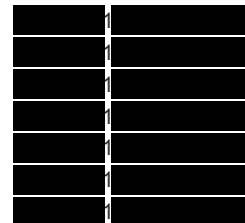
- EDI Format - ESDAT (ESDAT)

Email



- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)

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Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry) 18958 (Biology).

- (WATER) EP231A: Perfluoroalkyl Sulfonic Acids
 - (WATER) EP231B: Perfluoroalkyl Carboxylic Acids
 - (WATER) EP231C: Perfluoroalkyl Sulfonamides
 - (WATER) EP231D: (n:2) Fluorotelomer Sulfonic Acids
 - (WATER) EP231P: PFAS Sums
 - (SOIL) EP231A: Perfluoroalkyl Sulfonic Acids
 - (SOIL) EP231B: Perfluoroalkyl Carboxylic Acids
 - (SOIL) EP231P: PFAS Sums
 - (SOIL) EP231S: PFAS Surrogate
 - (SOIL) EA055: Moisture Content (Dried @ 105-110°C)
 - (WATER) EP231S: PFAS Surrogate
 - (SOIL) EP231D: (n:2) Fluorotelomer Sulfonic Acids
 - (SOIL) EP231C: Perfluoroalkyl Sulfonamides
-

AECOM Aust Pty Ltd TSV

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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition
Arrangement for the mutual recognition of the
equivalence of testing, medical testing, calibration,
inspection, proficiency testing scheme providers and
reference materials producers reports and certificates.

Attention: ██████████

Report 982496-W
Project name RAAF BASE
Project ID 60612487
Received Date Apr 20, 2023

Client Sample ID			0874_QC205_2 30419	0874_QC250_2 30411	0874_QC203_2 30418	0874_QC204_2 30419
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23- Ap0042626	TW23- Ap0042627	TW23- Ap0042628	TW23- Ap0042629
Date Sampled			Apr 19, 2023	Apr 11, 2023	Apr 18, 2023	Apr 19, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.06	< 0.05	0.06	0.14
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.07	0.02	0.07	0.14
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	^{N09} 0.37	0.07	^{N09} 0.35	0.69
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 0.04	< 0.01	^{N09} 0.03	^{N09} 0.05
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 0.08	^{N09} 0.02	^{N09} 0.07	^{N09} 0.09
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	79	84	74	86
13C5-PFPeA (surr.)	1	%	83	91	84	95
13C5-PFHxA (surr.)	1	%	105	105	102	75
13C4-PFHpA (surr.)	1	%	106	104	102	127
13C8-PFOA (surr.)	1	%	96	103	100	119
13C5-PFNA (surr.)	1	%	93	101	106	136
13C6-PFDA (surr.)	1	%	65	75	85	112
13C2-PFUnDA (surr.)	1	%	69	73	95	121
13C2-PFDoDA (surr.)	1	%	64	72	92	103
13C2-PFTeDA (surr.)	1	%	64	70	86	55
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	83	99	111	140
D3-N-MeFOSA (surr.)	1	%	76	77	91	117

Client Sample ID			0874_QC205_2 30419	0874_QC250_2 30411	0874_QC203_2 30418	0874_QC204_2 30419
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23- Ap0042626	TW23- Ap0042627	TW23- Ap0042628	TW23- Ap0042629
Date Sampled			Apr 19, 2023	Apr 11, 2023	Apr 18, 2023	Apr 19, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	67	72	86	124
D7-N-MeFOSE (surr.)	1	%	60	71	82	131
D9-N-EtFOSE (surr.)	1	%	61	62	79	125
D5-N-EtFOSAA (surr.)	1	%	69	78	95	109
D3-N-MeFOSAA (surr.)	1	%	73	73	91	112
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.15	0.02	0.13	0.31
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	^{N09} < 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.06	< 0.01	0.05	0.49
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.12	^{N09} 0.02	^{N09} 0.11	^{N09} 0.39
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 1.1	^{N09} 0.19	^{N09} 1.0	^{N09} 5.0
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.06	^{N09} 0.01	^{N09} 0.06	^{N09} 0.59
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 1.3	^{N09} 0.23	^{N09} 1.7	^{N09} 4.4
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	104	114	97	61
18O2-PFHxS (surr.)	1	%	78	92	85	78
13C8-PFOS (surr.)	1	%	80	82	82	84
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	117	114	111	97
13C2-6:2 FTSA (surr.)	1	%	120	129	124	155
13C2-8:2 FTSA (surr.)	1	%	87	103	120	139
13C2-10:2 FTSA (surr.)	1	%	68	66	102	102
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	2.4	0.42	2.7	9.4
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	1.38	0.25	1.77	4.49
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	2.48	0.44	2.77	9.49
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	3.17	0.55	3.41	10.82
Sum of PFASs (n=30)*	0.1	ug/L	3.41	0.58	3.63	12.29

Client Sample ID			0874_QC252_2 30913	0874_QC201_2 30417	0874_QC202_2 30418
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW23- Ap0042630	TW23- Ap0042631	TW23- Ap0042632
Date Sampled			Apr 13, 2023	Apr 17, 2023	Apr 18, 2023
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	106	99	83
13C5-PFPeA (surr.)	1	%	112	103	93
13C5-PFHxA (surr.)	1	%	117	117	94
13C4-PFHpA (surr.)	1	%	111	118	124
13C8-PFOA (surr.)	1	%	102	121	134
13C5-PFNA (surr.)	1	%	93	117	133
13C6-PFDA (surr.)	1	%	80	95	140
13C2-PFUnDA (surr.)	1	%	86	93	108
13C2-PFDoDA (surr.)	1	%	80	98	100
13C2-PFTTeDA (surr.)	1	%	88	85	66
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	116	100	122
D3-N-MeFOSA (surr.)	1	%	85	87	145
D5-N-EtFOSA (surr.)	1	%	85	81	143
D7-N-MeFOSE (surr.)	1	%	74	76	134
D9-N-EtFOSE (surr.)	1	%	70	72	136
D5-N-EtFOSAA (surr.)	1	%	87	93	119
D3-N-MeFOSAA (surr.)	1	%	93	97	109
Perfluoroalkyl sulfonic acids (PFSAs)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	< 0.01	< 0.01	^{No9} 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{No9} 0.01	^{No9} 0.01	< 0.01
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01

Client Sample ID			0874_QC252_2 30913	0874_QC201_2 30417	0874_QC202_2 30418
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW23- Ap0042630	TW23- Ap0042631	TW23- Ap0042632
Date Sampled			Apr 13, 2023	Apr 17, 2023	Apr 18, 2023
Test/Reference	LOR	Unit			
Perfluoroalkyl sulfonic acids (PFSA)					
13C3-PFBS (surr.)	1	%	116	119	60
18O2-PFHxS (surr.)	1	%	102	100	95
13C8-PFOS (surr.)	1	%	122	120	124
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	103	118	66
13C2-6:2 FTSA (surr.)	1	%	101	140	137
13C2-8:2 FTSA (surr.)	1	%	155	133	121
13C2-10:2 FTSA (surr.)	1	%	80	99	97
PFASs Summations					
Sum (PFHxS + PFOS)*	0.01	ug/L	0.01	0.01	0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.01	0.01	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	0.01	0.01	0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.05	< 0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	< 0.1	< 0.1	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Apr 27, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Apr 27, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFASs)	Brisbane	Apr 27, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Apr 27, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

Company Name: AECOM Aust Pty Ltd TSV

Address: [REDACTED]

Project Name: RAAF BASE
Project ID: 60612487

Order No.: 60612487_2.1

Report #: 982496

Phone: [REDACTED]
Fax: [REDACTED]

Received: Apr 20, 2023 12:39 PM

Due: Apr 28, 2023

Priority: 5 Day

Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC251_230411	Apr 11, 2023		Soil	TW23-Ap0042625	X	
2	0874_QC205_230419	Apr 19, 2023		Water	TW23-Ap0042626		X
3	0874_QC250_230411	Apr 11, 2023	1:45PM	Water	TW23-Ap0042627		X
4	0874_QC203_230418	Apr 18, 2023	3:30PM	Water	TW23-Ap0042628		X
5	0874_QC204_230419	Apr 19, 2023		Water	TW23-Ap0042629		X
6	0874_QC252_230913	Apr 13, 2023		Water	TW23-Ap0042630		X
7	0874_QC201_230417	Apr 17, 2023	5:00PM	Water	TW23-Ap0042631		X
8	0874_QC202_230418	Apr 18, 2023	1:00PM	Water	TW23-Ap0042632		X



web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
Penrose,
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Apr 20, 2023 12:39 PM
Address:	[REDACTED]	Report #:	982496	Due:	Apr 28, 2023
		Phone:	[REDACTED]	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
Project Name:	RAAF BASE				
Project ID:	60612487				
Eurofins Analytical Services Manager : [REDACTED]					

Sample Detail						HOLD	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC206_230418	Apr 18, 2023	2:55PM	Water	TW23-Ap0042633	X	
Test Counts						2	7

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05		0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01		0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01		0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01		0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01		0.01	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05		0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05		0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05		0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05		0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05		0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05		0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05		0.05	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01		0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01		0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01		0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01		0.01	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05		0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01		0.01	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	100		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	64		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	68		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	74		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	54		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	104		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	117		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	96		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	104		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	87		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	81		50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	76			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	80			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	63			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	57			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	63			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	98			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	100			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	62			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	101			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	148			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	92			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	143			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	136			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	83			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	74			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	50			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	98			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	118			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	117			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1				
Perfluorobutanoic acid (PFBA)	TW23-Ap0042626	CP	%	86		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW23-Ap0042626	CP	%	77		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW23-Ap0042626	CP	%	130		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW23-Ap0042626	CP	%	89		50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW23-Ap0042626	CP	%	104		50-150	Pass	
Perfluorononanoic acid (PFNA)	TW23-Ap0042626	CP	%	94		50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW23-Ap0042626	CP	%	99		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW23-Ap0042626	CP	%	90		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW23-Ap0042626	CP	%	95		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW23-Ap0042626	CP	%	98		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW23-Ap0042626	CP	%	107		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
				Result 1				
Perfluorooctane sulfonamide (FOSA)	TW23-Ap0042626	CP	%	99		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW23-Ap0042626	CP	%	95		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW23-Ap0042626	CP	%	95			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW23-Ap0042626	CP	%	93			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW23-Ap0042626	CP	%	103			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW23-Ap0042626	CP	%	91			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW23-Ap0042626	CP	%	84			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW23-Ap0042626	CP	%	86			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW23-Ap0042626	CP	%	92			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW23-Ap0042626	CP	%	91			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW23-Ap0042626	CP	%	84			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW23-Ap0042626	CP	%	69			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW23-Ap0042626	CP	%	123			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW23-Ap0042626	CP	%	79			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW23-Ap0042626	CP	%	72			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW23-Ap0042626	CP	%	95			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW23-Ap0042626	CP	%	93			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW23-Ap0042626	CP	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW23-Ap0042626	CP	%	107			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S23-My0000899	NCP	ug/L	1.1	1.2	4.3	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S23-My0000899	NCP	ug/L	0.49	0.51	4.2	30%	Pass	
Perfluorohexanoic acid (PFHxA)	B23-Ap0053033	NCP	ug/L	5.2	5.7	9.6	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	B23-Ap0053034	NCP	ug/L	0.34	0.33	3.0	30%	Pass	
Perfluorooctanoic acid (PFOA)	B23-Ap0053034	NCP	ug/L	0.45	0.45	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	B23-Ap0053034	NCP	ug/L	0.27	0.30	8.0	30%	Pass	
Perfluorodecanoic acid (PFDA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	B23-Ap0053033	NCP	ug/L	0.04	0.05	15	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTTrDA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTTeDA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	B23-Ap0053034	NCP	ug/L	0.66	0.67	1.2	30%	Pass
Perfluorononanesulfonic acid (PFNS)	S23-My0000899	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	B23-Ap0053034	NCP	ug/L	0.23	0.21	7.8	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	S23-My0000899	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	S23-My0000899	NCP	ug/L	0.27	0.27	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	S23-My0000899	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	S23-My0000899	NCP	ug/L	0.14	0.13	9.2	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	S23-My0000899	NCP	ug/L	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	B23-Ap0053033	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	B23-Ap0053033	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass




Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS


General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
Penrose
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV

Address: [REDACTED]

Project Name: RAAF BASE
Project ID: 60612487

Order No.: 60612487_2.1

Report #: 982496

Phone: [REDACTED]
Fax: [REDACTED]

Received: Apr 20, 2023 12:39 PM

Due: Apr 28, 2023

Priority: 5 Day

Contact Name: [REDACTED]

Eurofins Analytical Services Manager: [REDACTED]

Sample Detail						HOLD	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	0874_QC251_230411	Apr 11, 2023		Soil	TW23-Ap0042625	X	
2	0874_QC205_230419	Apr 19, 2023		Water	TW23-Ap0042626		X
3	0874_QC250_230411	Apr 11, 2023	1:45PM	Water	TW23-Ap0042627		X
4	0874_QC203_230418	Apr 18, 2023	3:30PM	Water	TW23-Ap0042628		X
5	0874_QC204_230419	Apr 19, 2023		Water	TW23-Ap0042629		X
6	0874_QC252_230913	Apr 13, 2023		Water	TW23-Ap0042630		X
7	0874_QC201_230417	Apr 17, 2023	5:00PM	Water	TW23-Ap0042631		X
8	0874_QC202_230418	Apr 18, 2023	1:00PM	Water	TW23-Ap0042632		X



Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	Apr 20, 2023 12:39 PM
Address:	[REDACTED]	Report #:	982496	Due:	Apr 28, 2023
		Phone:	[REDACTED]	Priority:	5 Day
		Fax:	[REDACTED]	Contact Name:	[REDACTED]
Project Name:	RAAF BASE				
Project ID:	60612487				
Eurofins Analytical Services Manager : [REDACTED]					

Sample Detail						HOLD	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X
9	0874_QC206_230418	Apr 18, 2023	2:55PM	Water	TW23-Ap0042633	X	
Test Counts						2	7

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne 6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289
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Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth 46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland 35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290
---	---

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd TSV
Contact name:	[REDACTED]
Project name:	RAAF BASE
Project ID:	60612487
Turnaround time:	5 Day
Date/Time received	Apr 20, 2023 12:39 PM
Eurofins reference	982496

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✗ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✗ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

The sample 0874_QC250_230411 was received labelled on the bottles as 0874_QC200_230411. The sample 0874_QC206_230418 was received labelled on the bottles as 0874_QC200_230418. The sample IDs from the COC were used - please advise if this is incorrect.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]@eurofins.com

Results will be delivered electronically via email to [REDACTED] - [REDACTED]

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.

AECOM Aust Pty Ltd TSV

[Redacted]



NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition
Arrangement for the mutual recognition of the
equivalence of testing, medical testing, calibration,
inspection, proficiency testing scheme providers and
reference materials producers reports and certificates.

Attention:

[Redacted]

Report 986709-S
Project name QLD_0874_PFASOMP_23
Project ID 60612487_2.1
Received Date May 05, 2023

Client Sample ID			0874_QC221_2 30503	0874_QC208_2 30421	0874_QC213_2 30422	0874_QC211_2 30421
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			TW23- My0013360	TW23- My0013361	TW23- My0013362	TW23- My0013363
Date Sampled			May 03, 2023	Apr 21, 2023	Apr 22, 2023	Apr 21, 2023
Test/Reference	LOR	Unit				
Sample Properties						
% Moisture	1	%	23	31	30	65
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanoic acid (PFPeA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanoic acid (PFHxA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroheptanoic acid (PFHpA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanoic acid (PFOA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanoic acid (PFNA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorodecanoic acid (PFDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoroundecanoic acid (PFUnDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorododecanoic acid (PFDoDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotridecanoic acid (PFTrDA) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C4-PFBA (surr.)	1	%	95	72	66	73
13C5-PFPeA (surr.)	1	%	100	73	72	67
13C5-PFHxA (surr.)	1	%	107	98	83	74
13C4-PFHpA (surr.)	1	%	99	122	117	111
13C8-PFOA (surr.)	1	%	102	96	101	108
13C5-PFNA (surr.)	1	%	102	115	115	123
13C6-PFDA (surr.)	1	%	91	83	97	104
13C2-PFUnDA (surr.)	1	%	79	96	100	91
13C2-PFDoDA (surr.)	1	%	89	96	106	91
13C2-PFTeDA (surr.)	1	%	80	71	82	42
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10

Client Sample ID			0874_QC221_2 30503	0874_QC208_2 30421	0874_QC213_2 30422	0874_QC211_2 30421
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			TW23- My0013360	TW23- My0013361	TW23- My0013362	TW23- My0013363
Date Sampled			May 03, 2023	Apr 21, 2023	Apr 22, 2023	Apr 21, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
13C8-FOSA (surr.)	1	%	118	93	75	81
D3-N-MeFOSA (surr.)	1	%	90	91	116	78
D5-N-EtFOSA (surr.)	1	%	96	67	74	61
D7-N-MeFOSE (surr.)	1	%	77	65	85	97
D9-N-EtFOSE (surr.)	1	%	64	82	98	60
D5-N-EtFOSAA (surr.)	1	%	72	72	75	38
D3-N-MeFOSAA (surr.)	1	%	80	77	84	70
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorononanesulfonic acid (PFNS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	5	ug/kg	< 5	< 5	< 5	5.5
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
Perfluorooctanesulfonic acid (PFOS) ^{N11}	5	ug/kg	< 5	< 5	6.2	46
Perfluorodecanesulfonic acid (PFDS) ^{N15}	5	ug/kg	< 5	< 5	< 5	< 5
13C3-PFBS (surr.)	1	%	96	89	81	57
18O2-PFHxS (surr.)	1	%	83	85	88	72
13C8-PFOS (surr.)	1	%	109	114	126	117
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	10	ug/kg	< 10	< 10	< 10	< 10
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	5	ug/kg	< 5	< 5	< 5	< 5
13C2-4:2 FTSA (surr.)	1	%	90	81	59	104
13C2-6:2 FTSA (surr.)	1	%	63	138	107	106
13C2-8:2 FTSA (surr.)	1	%	84	76	57	69
13C2-10:2 FTSA (surr.)	1	%	84	90	107	90
PFASs Summations						
Sum (PFHxS + PFOS)*	5	ug/kg	< 5	< 5	6.2	51.5
Sum of US EPA PFAS (PFOS + PFOA)*	5	ug/kg	< 5	< 5	6.2	46
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	5	ug/kg	< 5	< 5	6.2	51.5
Sum of WA DWER PFAS (n=10)*	10	ug/kg	< 10	< 10	< 10	51.5
Sum of PFASs (n=30)*	50	ug/kg	< 50	< 50	< 50	51.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
% Moisture - Method: LTM-GEN-7080 Moisture	Brisbane	May 05, 2023	14 Days
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	May 08, 2023	28 Days
Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	May 08, 2023	28 Days
Perfluoroalkyl sulfonic acids (PFSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	May 08, 2023	28 Days
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)	Brisbane	May 08, 2023	28 Days

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	May 5, 2023 11:25 AM
Address:	[REDACTED]	Report #:	986709	Due:	May 12, 2023
		Phone:	[REDACTED]	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
Project Name:	QLD_0874_PFASOMP_23				
Project ID:	60612487_2.1				

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC221_230503	May 03, 2023		Soil	TW23-My0013360		X	X
2	0874_QC208_230421	Apr 21, 2023		Soil	TW23-My0013361		X	X
3	0874_QC213_230422	Apr 22, 2023		Soil	TW23-My0013362		X	X
4	0874_QC211_230421	Apr 21, 2023		Soil	TW23-My0013363		X	X
5	0874_QC222_230504	May 04, 2023		Water	TW23-My0013364			X
6	0874_QC224_230504	May 04, 2023		Water	TW23-My0013365			X
7	0874_QC219_230427	Apr 27, 2023		Water	TW23-My0013366			X
8	0874_QC223_230504	May 04, 2023		Water	TW23-My0013367			X

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]
Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Order No.: 60612487_2.1
Report #: 986709
Phone: [REDACTED]
Fax: [REDACTED]

Received: May 5, 2023 11:25 AM
Due: May 12, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC217_230426	Apr 26, 2023		Water	TW23-My0013368			X
10	0874_QC552_230505	May 05, 2023		Water	TW23-My0013369			X
11	0874_QC207_230420	Apr 20, 2023		Water	TW23-My0013370			X
12	0874_QC218_230426	Apr 26, 2023		Water	TW23-My0013371			X
13	0874_QC212_230422	Apr 22, 2023		Water	TW23-My0013372			X
14	0874_QC206_230420	Apr 20, 2023		Water	TW23-My0013373			X
15	0874_QC209_230421	Apr 21, 2023		Water	TW23-My0013374			X
16	0874_QC220_230503	May 03, 2023		Water	TW23-My0013375			X
17	0874_QC214_230422	Apr 22, 2023		Water	TW23-My0013376			X
18	0874_QC210_	Apr 21, 2023		Water	TW23-			X

Melbourne
 6 Monterey Road
 Dandenong South
 VIC 3175
 Tel: +61 3 8564 5000
 NATA# 1261 Site# 1254

Geelong
 19/8 Lewalan Street
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 Tel: +61 7 3902 4600
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 Mayfield West NSW 2304
 Tel: +61 2 4968 8448
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Perth
 46-48 Banksia Road
 Welshpool
 WA 6106
 Tel: +61 8 6253 4444
 NATA# 2377 Site# 2370

Auckland
 35 O'Rorke Road
 Penrose,
 Auckland 1061
 Tel: +64 9 526 45 51
 IANZ# 1327

Christchurch
 43 Detroit Drive
 Rolleston,
 Christchurch 7675
 Tel: 0800 856 450
 IANZ# 1290

 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]

Order No.: 60612487_2.1
Report #: 986709
Phone: [REDACTED]
Fax: [REDACTED]

Received: May 5, 2023 11:25 AM
Due: May 12, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
18	0874_QC210_230421	Apr 21, 2023		Water	TW23-My0013377			
19	0874_QC215_230425	Apr 25, 2023		Water	TW23-My0013378			X
20	0874_QC253_230421	Apr 23, 2023		Water	TW23-My0013379	X		
21	0874_QC254_230421	Apr 21, 2023		Water	TW23-My0013380	X		
22	0874_QC216_230425	Apr 25, 2023		Water	TW23-My0013381	X		
Test Counts						3	4	19

Internal Quality Control Review and Glossary
General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100 mL: Most Probable Number of organisms per 100 millilitres

CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/kg	< 5		5	Pass	
Perfluoropentanoic acid (PFPeA)	ug/kg	< 5		5	Pass	
Perfluorohexanoic acid (PFHxA)	ug/kg	< 5		5	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/kg	< 5		5	Pass	
Perfluorooctanoic acid (PFOA)	ug/kg	< 5		5	Pass	
Perfluorononanoic acid (PFNA)	ug/kg	< 5		5	Pass	
Perfluorodecanoic acid (PFDA)	ug/kg	< 5		5	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/kg	< 5		5	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/kg	< 5		5	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/kg	< 5		5	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/kg	< 5		5	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/kg	< 5		5	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/kg	< 5		5	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/kg	< 5		5	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/kg	< 5		5	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/kg	< 5		5	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/kg	< 10		10	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/kg	< 10		10	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/kg	< 5		5	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/kg	< 5		5	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/kg	< 5		5	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/kg	< 5		5	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/kg	< 5		5	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/kg	< 5		5	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/kg	< 5		5	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/kg	< 5		5	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/kg	< 10		10	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/kg	< 5		5	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/kg	< 5		5	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	102		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	89		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	98		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	107		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	89		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	92		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	78		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	102		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	108		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	79		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	104		50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	89			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	95			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	99			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	122			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	95			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	114			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	113			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	91			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	126			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	144			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	115			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	120			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	150			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	114			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	114			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	92			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	76			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	91			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	125			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1				
Perfluorobutanoic acid (PFBA)	TW23-My0013361	CP	%	91		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW23-My0013361	CP	%	93		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW23-My0013361	CP	%	82		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW23-My0013361	CP	%	75		50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW23-My0013361	CP	%	64		50-150	Pass	
Perfluorononanoic acid (PFNA)	TW23-My0013361	CP	%	104		50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW23-My0013361	CP	%	69		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW23-My0013361	CP	%	105		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW23-My0013361	CP	%	90		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW23-My0013361	CP	%	76		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW23-My0013361	CP	%	89		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
				Result 1				
Perfluorooctane sulfonamide (FOSA)	TW23-My0013361	CP	%	90		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW23-My0013361	CP	%	84		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW23-My0013361	CP	%	80			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW23-My0013361	CP	%	91			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW23-My0013361	CP	%	82			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW23-My0013361	CP	%	99			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW23-My0013361	CP	%	91			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW23-My0013361	CP	%	80			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW23-My0013361	CP	%	126			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW23-My0013361	CP	%	130			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW23-My0013361	CP	%	115			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW23-My0013361	CP	%	144			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW23-My0013361	CP	%	138			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW23-My0013361	CP	%	94			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW23-My0013361	CP	%	86			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW23-My0013361	CP	%	74			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW23-My0013361	CP	%	57			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW23-My0013361	CP	%	147			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW23-My0013361	CP	%	122			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-My0013817	NCP	%	26	25	3.5	30%	Pass	
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA's)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass	

Duplicate								
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD		
Perfluorodecanoic acid (PFDA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroundecanoic acid (PFUnDA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorododecanoic acid (PFDoDA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotridecanoic acid (PFTrDA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorotetradecanoic acid (PFTeDA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD		
Perfluorooctane sulfonamide (FOSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW23-My0013360	CP	ug/kg	< 10	< 10	<1	30%	Pass
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW23-My0013360	CP	ug/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Perfluoroalkyl sulfonic acids (PFSA's)				Result 1	Result 2	RPD		
Perfluorobutanesulfonic acid (PFBS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorononanesulfonic acid (PFNS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropropanesulfonic acid (PFPrS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoropentanesulfonic acid (PFPeS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorohexanesulfonic acid (PFHxS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluoroheptanesulfonic acid (PFHpS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorooctanesulfonic acid (PFOS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Perfluorodecanesulfonic acid (PFDS)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
Duplicate								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)				Result 1	Result 2	RPD		
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW23-My0013360	CP	ug/kg	< 10	< 10	<1	30%	Pass
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW23-My0013360	CP	ug/kg	< 5	< 5	<1	30%	Pass

Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

	Analytical Services Manager
	Senior Analyst-PFAS
	Senior Analyst-Sample Properties

General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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AECOM Aust Pty Ltd TSV

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NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition
Arrangement for the mutual recognition of the
equivalence of testing, medical testing, calibration,
inspection, proficiency testing scheme providers and
reference materials producers reports and certificates.

Attention: ██████████

Report 986709-W
Project name QLD_0874_PFASOMP_23
Project ID 60612487_2.1
Received Date May 05, 2023

Client Sample ID			0874_QC222_2 30504	0874_QC224_2 30504	0874_QC219_2 30427	0874_QC223_2 30504
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23- My0013364	TW23- My0013365	TW23- My0013366	TW23- My0013367
Date Sampled			May 04, 2023	May 04, 2023	Apr 27, 2023	May 04, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.44	< 0.05	0.20	0.27
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.72	< 0.01	0.07	0.32
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	3.8	< 0.01	0.36	1.4
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 0.53	< 0.01	^{N09} 0.01	^{N09} 0.18
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	86	51	64	69
13C5-PFPeA (surr.)	1	%	80	71	86	71
13C5-PFHxA (surr.)	1	%	104	71	72	101
13C4-PFHpA (surr.)	1	%	65	71	93	85
13C8-PFOA (surr.)	1	%	88	73	86	87
13C5-PFNA (surr.)	1	%	70	62	100	96
13C6-PFDA (surr.)	1	%	73	56	86	69
13C2-PFUnDA (surr.)	1	%	69	48	82	83
13C2-PFDoDA (surr.)	1	%	66	47	73	82
13C2-PFTeDA (surr.)	1	%	51	66	68	72
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	^{N09} 0.08	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	80	58	99	104
D3-N-MeFOSA (surr.)	1	%	144	74	161	147

Client Sample ID			0874_QC222_2 30504	0874_QC224_2 30504	0874_QC219_2 30427	0874_QC223_2 30504
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23-My0013364	TW23-My0013365	TW23-My0013366	TW23-My0013367
Date Sampled			May 04, 2023	May 04, 2023	Apr 27, 2023	May 04, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonamido substances						
D5-N-EtFOSA (surr.)	1	%	165	84	189	193
D7-N-MeFOSE (surr.)	1	%	62	38	59	64
D9-N-EtFOSE (surr.)	1	%	65	35	58	65
D5-N-EtFOSAA (surr.)	1	%	97	54	98	100
D3-N-MeFOSAA (surr.)	1	%	94	49	90	84
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	1.3	< 0.01	0.20	0.41
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.52	< 0.01	0.06	0.11
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 1.1	< 0.01	^{N09} 0.15	^{N09} 0.33
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 1.4	< 0.01	^{N09} 1.9	^{N09} 4.1
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.74	< 0.01	^{N09} 0.03	^{N09} 0.13
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 1.5	^{N09} 0.01	^{N09} 0.29	^{N09} 6.5
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	102	79	92	107
18O2-PFHxS (surr.)	1	%	70	80	89	86
13C8-PFOS (surr.)	1	%	85	62	76	73
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	140	76	148	141
13C2-6:2 FTSA (surr.)	1	%	152	90	122	135
13C2-8:2 FTSA (surr.)	1	%	88	54	112	100
13C2-10:2 FTSA (surr.)	1	%	89	54	66	143
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	29	0.01	2.19	10.6
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	16.9	0.01	0.31	6.77
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	30.9	0.01	2.21	10.87
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	37.69	< 0.05	3.05	13.45
Sum of PFASs (n=30)*	0.1	ug/L	40.13	< 0.1	3.29	14.02

Client Sample ID			0874_QC217_2 30426	0874_QC552_2 30505	0874_QC207_2 30420	0874_QC218_2 30426
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23- My0013368	TW23- My0013369	TW23- My0013370	TW23- My0013371
Date Sampled			Apr 26, 2023	May 05, 2023	Apr 20, 2023	Apr 26, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	24	< 0.05	0.26	12
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	33	< 0.01	0.36	22
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	180	0.04	1.8	150
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 20	< 0.01	^{N09} 0.31	^{N09} 18
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 38	^{N09} 0.02	^{N09} 0.90	^{N09} 14
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	^{N09} 0.36	< 0.01	< 0.01	^{N09} 0.15
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	0.12	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	78	100	54	62
13C5-PFPeA (surr.)	1	%	74	93	53	61
13C5-PFHxA (surr.)	1	%	90	129	94	78
13C4-PFHpA (surr.)	1	%	54	108	69	62
13C8-PFOA (surr.)	1	%	57	100	55	74
13C5-PFNA (surr.)	1	%	62	83	61	39
13C6-PFDA (surr.)	1	%	51	105	64	71
13C2-PFUnDA (surr.)	1	%	60	87	75	70
13C2-PFDoDA (surr.)	1	%	53	87	61	61
13C2-PFTTeDA (surr.)	1	%	78	94	60	46
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	^{N09} < 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	87	89	93	91
D3-N-MeFOSA (surr.)	1	%	193	149	147	175
D5-N-EtFOSA (surr.)	1	%	250	189	189	241
D7-N-MeFOSE (surr.)	1	%	82	64	60	63
D9-N-EtFOSE (surr.)	1	%	85	69	63	75
D5-N-EtFOSAA (surr.)	1	%	62	92	88	69
D3-N-MeFOSAA (surr.)	1	%	56	84	93	57
Perfluoroalkyl sulfonic acids (PFSAs)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	36	< 0.01	0.58	24
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	1.6	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	14	< 0.01	0.13	11
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 32	< 0.01	^{N09} 0.46	^{N09} 27
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 490	^{N09} 0.09	^{N09} 4.5	^{N09} 820
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 30	< 0.01	^{N09} 0.20	^{N09} 26
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 1400	^{N09} 0.20	^{N09} 5.5	^{N09} 580
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			0874_QC217_2 30426	0874_QC552_2 30505	0874_QC207_2 30420	0874_QC218_2 30426
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23-My0013368	TW23-My0013369	TW23-My0013370	TW23-My0013371
Date Sampled			Apr 26, 2023	May 05, 2023	Apr 20, 2023	Apr 26, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl sulfonic acids (PFSA)						
13C3-PFBS (surr.)	1	%	99	108	94	81
18O2-PFHxS (surr.)	1	%	81	100	79	77
13C8-PFOS (surr.)	1	%	70	99	71	85
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	8.2	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	38	143	155	34
13C2-6:2 FTSA (surr.)	1	%	55	117	125	54
13C2-8:2 FTSA (surr.)	1	%	43	112	120	59
13C2-10:2 FTSA (surr.)	1	%	58	73	82	67
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	1890	0.29	10	1400
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	1438	0.22	6.4	594
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	1928	0.31	10.9	1414
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	2229.2	0.35	14.21	1640
Sum of PFASs (n=30)*	0.1	ug/L	2307.28	0.35	15	1704.15

Client Sample ID			0874_QC212_2 30422	0874_QC206_2 30420	0874_QC209_2 30421	0874_QC220_2 30503
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23-My0013372	TW23-My0013373	TW23-My0013374	TW23-My0013375
Date Sampled			Apr 22, 2023	Apr 20, 2023	Apr 21, 2023	May 03, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCA)						
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.06	0.28	< 0.05	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.03	0.39	< 0.01	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	0.16	1.8	< 0.01	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 0.02	^{N09} 0.18	< 0.01	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 0.05	^{N09} 0.60	< 0.01	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	82	75	72	91
13C5-PFPeA (surr.)	1	%	67	75	74	71
13C5-PFHxA (surr.)	1	%	105	108	97	109
13C4-PFHpA (surr.)	1	%	85	80	83	83
13C8-PFOA (surr.)	1	%	86	69	84	83
13C5-PFNA (surr.)	1	%	80	74	68	78
13C6-PFDA (surr.)	1	%	92	63	102	94

Client Sample ID			0874_QC212_2 30422	0874_QC206_2 30420	0874_QC209_2 30421	0874_QC220_2 30503
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23- My0013372	TW23- My0013373	TW23- My0013374	TW23- My0013375
Date Sampled			Apr 22, 2023	Apr 20, 2023	Apr 21, 2023	May 03, 2023
Test/Reference	LOR	Unit				
Perfluoroalkyl carboxylic acids (PFCAs)						
13C2-PFUnDA (surr.)	1	%	74	96	81	68
13C2-PFDoDA (surr.)	1	%	73	84	80	79
13C2-PFTeDA (surr.)	1	%	49	95	91	46
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	86	108	92	85
D3-N-MeFOSA (surr.)	1	%	159	166	110	128
D5-N-EtFOSA (surr.)	1	%	194	193	141	127
D7-N-MeFOSE (surr.)	1	%	58	72	57	55
D9-N-EtFOSE (surr.)	1	%	63	69	61	58
D5-N-EtFOSAA (surr.)	1	%	94	111	104	83
D3-N-MeFOSAA (surr.)	1	%	87	115	95	79
Perfluoroalkyl sulfonic acids (PFSA)						
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.05	0.76	< 0.01	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.01	0.48	< 0.01	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.04	^{N09} 0.82	< 0.01	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 1.2	^{N09} 6.8	^{N09} 0.02	^{N09} 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.03	^{N09} 0.63	< 0.01	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 0.78	^{N09} 11	^{N09} 0.03	^{N09} 0.03
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	100	60	93	102
18O2-PFHxS (surr.)	1	%	87	92	90	82
13C8-PFOS (surr.)	1	%	60	84	92	73
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	140	188	160	118
13C2-6:2 FTSA (surr.)	1	%	101	156	138	122
13C2-8:2 FTSA (surr.)	1	%	96	115	100	93
13C2-10:2 FTSA (surr.)	1	%	66	95	93	97

Client Sample ID			0874_QC212_2 30422	0874_QC206_2 30420	0874_QC209_2 30421	0874_QC220_2 30503
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			TW23-My0013372	TW23-My0013373	TW23-My0013374	TW23-My0013375
Date Sampled			Apr 22, 2023	Apr 20, 2023	Apr 21, 2023	May 03, 2023
Test/Reference	LOR	Unit				
PFASs Summations						
Sum (PFHxS + PFOS)*	0.01	ug/L	1.98	17.8	0.05	0.04
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	0.83	11.6	0.03	0.03
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	2.03	18.4	0.05	0.04
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	2.35	21.81	0.05	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	2.43	23.74	< 0.1	< 0.1

Client Sample ID			0874_QC214_2 30422	0874_QC210_2 30421	0874_QC215_2 30425
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW23-My0013376	TW23-My0013377	TW23-My0013378
Date Sampled			Apr 22, 2023	Apr 21, 2023	Apr 25, 2023
Test/Reference	LOR	Unit			
Perfluoroalkyl carboxylic acids (PFCAs)					
Perfluorobutanoic acid (PFBA) ^{N11}	0.05	ug/L	0.10	0.82	< 0.05
Perfluoropentanoic acid (PFPeA) ^{N11}	0.01	ug/L	0.11	1.1	< 0.01
Perfluorohexanoic acid (PFHxA) ^{N11}	0.01	ug/L	0.59	6.1	< 0.01
Perfluoroheptanoic acid (PFHpA) ^{N11}	0.01	ug/L	^{N09} 0.04	^{N09} 0.76	< 0.01
Perfluorooctanoic acid (PFOA) ^{N11}	0.01	ug/L	^{N09} 0.06	^{N09} 2.6	< 0.01
Perfluorononanoic acid (PFNA) ^{N11}	0.01	ug/L	< 0.01	^{N09} 0.04	< 0.01
Perfluorodecanoic acid (PFDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluoroundecanoic acid (PFUnDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorododecanoic acid (PFDoDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotridecanoic acid (PFTrDA) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
Perfluorotetradecanoic acid (PFTeDA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C4-PFBA (surr.)	1	%	86	78	82
13C5-PFPeA (surr.)	1	%	87	77	86
13C5-PFHxA (surr.)	1	%	96	84	113
13C4-PFHpA (surr.)	1	%	89	84	89
13C8-PFOA (surr.)	1	%	91	74	90
13C5-PFNA (surr.)	1	%	85	63	82
13C6-PFDA (surr.)	1	%	77	63	103
13C2-PFUnDA (surr.)	1	%	68	76	91
13C2-PFDoDA (surr.)	1	%	70	86	69
13C2-PFTeDA (surr.)	1	%	55	43	56
Perfluoroalkyl sulfonamido substances					
Perfluorooctane sulfonamide (FOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
13C8-FOSA (surr.)	1	%	86	89	94

Client Sample ID			0874_QC214_2 30422	0874_QC210_2 30421	0874_QC215_2 30425
Sample Matrix			Water	Water	Water
Eurofins Sample No.			TW23-My0013376	TW23-My0013377	TW23-My0013378
Date Sampled			Apr 22, 2023	Apr 21, 2023	Apr 25, 2023
Test/Reference	LOR	Unit			
Perfluoroalkyl sulfonamido substances					
D3-N-MeFOSA (surr.)	1	%	146	141	170
D5-N-EtFOSA (surr.)	1	%	179	150	182
D7-N-MeFOSE (surr.)	1	%	62	55	71
D9-N-EtFOSE (surr.)	1	%	63	62	69
D5-N-EtFOSAA (surr.)	1	%	98	103	94
D3-N-MeFOSAA (surr.)	1	%	93	92	91
Perfluoroalkyl sulfonic acids (PFASs)					
Perfluorobutanesulfonic acid (PFBS) ^{N11}	0.01	ug/L	0.27	1.9	< 0.01
Perfluorononanesulfonic acid (PFNS) ^{N15}	0.01	ug/L	< 0.01	0.02	< 0.01
Perfluoropropanesulfonic acid (PFPrS) ^{N15}	0.01	ug/L	0.10	0.42	< 0.01
Perfluoropentanesulfonic acid (PFPeS) ^{N15}	0.01	ug/L	^{N09} 0.19	^{N09} 1.7	< 0.01
Perfluorohexanesulfonic acid (PFHxS) ^{N11}	0.01	ug/L	^{N09} 2.4	^{N09} 13	< 0.01
Perfluoroheptanesulfonic acid (PFHpS) ^{N15}	0.01	ug/L	^{N09} 0.06	^{N09} 0.78	< 0.01
Perfluorooctanesulfonic acid (PFOS) ^{N11}	0.01	ug/L	^{N09} 1.2	^{N09} 26	^{N09} 0.04
Perfluorodecanesulfonic acid (PFDS) ^{N15}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C3-PFBS (surr.)	1	%	92	83	100
18O2-PFHxS (surr.)	1	%	83	73	102
13C8-PFOS (surr.)	1	%	72	52	99
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA) ^{N11}	0.05	ug/L	< 0.05	< 0.05	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N11}	0.01	ug/L	< 0.01	< 0.01	< 0.01
13C2-4:2 FTSA (surr.)	1	%	147	117	159
13C2-6:2 FTSA (surr.)	1	%	133	122	121
13C2-8:2 FTSA (surr.)	1	%	92	97	108
13C2-10:2 FTSA (surr.)	1	%	88	79	89
PFASs Summations					
Sum (PFHxS + PFOS)*	0.01	ug/L	3.6	39	0.04
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	1.26	28.6	0.04
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	3.66	41.6	0.04
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	4.77	52.28	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	5.12	55.24	< 0.1

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	May 15, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	May 15, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFASs)	Brisbane	May 15, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	May 15, 2023	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	May 5, 2023 11:25 AM
Address:	[REDACTED]	Report #:	986709	Due:	May 12, 2023
		Phone:	[REDACTED]	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
Project Name:	QLD_0874_PFASOMP_23				
Project ID:	60612487_2.1				
Eurofins Analytical Services Manager : [REDACTED]					

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC221_230503	May 03, 2023		Soil	TW23-My0013360		X	X
2	0874_QC208_230421	Apr 21, 2023		Soil	TW23-My0013361		X	X
3	0874_QC213_230422	Apr 22, 2023		Soil	TW23-My0013362		X	X
4	0874_QC211_230421	Apr 21, 2023		Soil	TW23-My0013363		X	X
5	0874_QC222_230504	May 04, 2023		Water	TW23-My0013364			X
6	0874_QC224_230504	May 04, 2023		Water	TW23-My0013365			X
7	0874_QC219_230427	Apr 27, 2023		Water	TW23-My0013366			X
8	0874_QC223_230504	May 04, 2023		Water	TW23-My0013367			X

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]

Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Order No.: 60612487_2.1
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Received: May 5, 2023 11:25 AM
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Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC217_230426	Apr 26, 2023		Water	TW23-My0013368			X
10	0874_QC552_230505	May 05, 2023		Water	TW23-My0013369			X
11	0874_QC207_230420	Apr 20, 2023		Water	TW23-My0013370			X
12	0874_QC218_230426	Apr 26, 2023		Water	TW23-My0013371			X
13	0874_QC212_230422	Apr 22, 2023		Water	TW23-My0013372			X
14	0874_QC206_230420	Apr 20, 2023		Water	TW23-My0013373			X
15	0874_QC209_230421	Apr 21, 2023		Water	TW23-My0013374			X
16	0874_QC220_230503	May 03, 2023		Water	TW23-My0013375			X
17	0874_QC214_230422	Apr 22, 2023		Water	TW23-My0013376			X
18	0874_QC210_	Apr 21, 2023		Water	TW23-			X

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]

Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Order No.: 60612487_2.1
Report #: 986709
Phone: [REDACTED]
Fax: [REDACTED]

Received: May 5, 2023 11:25 AM
Due: May 12, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
18	0874_QC210_230421	Apr 21, 2023		Water	TW23-My0013377			
19	0874_QC215_230425	Apr 25, 2023		Water	TW23-My0013378			X
20	0874_QC253_230421	Apr 23, 2023		Water	TW23-My0013379	X		
21	0874_QC254_230421	Apr 21, 2023		Water	TW23-My0013380	X		
22	0874_QC216_230425	Apr 25, 2023		Water	TW23-My0013381	X		
Test Counts						3	4	19

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
- Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Method Blank						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05		0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01		0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01		0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01		0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotridecanoic acid (PFTTrDA)	ug/L	< 0.01		0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01		0.01	Pass	
Method Blank						
Perfluoroalkyl sulfonamido substances						
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05		0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05		0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05		0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05		0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05		0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05		0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05		0.05	Pass	
Method Blank						
Perfluoroalkyl sulfonic acids (PFASs)						
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01		0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01		0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01		0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01		0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01		0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01		0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01		0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01		0.01	Pass	
Method Blank						
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)						
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05		0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01		0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01		0.01	Pass	
LCS - % Recovery						
Perfluoroalkyl carboxylic acids (PFCAs)						
Perfluorobutanoic acid (PFBA)	%	110		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	91		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	94		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	92		50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	107		50-150	Pass	
Perfluorononanoic acid (PFNA)	%	104		50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	95		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	94		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	113		50-150	Pass	
Perfluorotridecanoic acid (PFTTrDA)	%	96		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	91		50-150	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
LCS - % Recovery								
Perfluoroalkyl sulfonamido substances								
Perfluorooctane sulfonamide (FOSA)	%	70			50-150	Pass		
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	65			50-150	Pass		
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	62			50-150	Pass		
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	%	82			50-150	Pass		
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	%	79			50-150	Pass		
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	95			50-150	Pass		
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	96			50-150	Pass		
LCS - % Recovery								
Perfluoroalkyl sulfonic acids (PFSA's)								
Perfluorobutanesulfonic acid (PFBS)	%	83			50-150	Pass		
Perfluorononanesulfonic acid (PFNS)	%	105			50-150	Pass		
Perfluoropropanesulfonic acid (PFPrS)	%	62			50-150	Pass		
Perfluoropentanesulfonic acid (PFPeS)	%	82			50-150	Pass		
Perfluorohexanesulfonic acid (PFHxS)	%	108			50-150	Pass		
Perfluoroheptanesulfonic acid (PFHpS)	%	109			50-150	Pass		
Perfluorooctanesulfonic acid (PFOS)	%	111			50-150	Pass		
Perfluorodecanesulfonic acid (PFDS)	%	86			50-150	Pass		
LCS - % Recovery								
n:2 Fluorotelomer sulfonic acids (n:2 FTSA's)								
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	%	96			50-150	Pass		
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	%	87			50-150	Pass		
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	%	91			50-150	Pass		
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	%	80			50-150	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Perfluoroalkyl carboxylic acids (PFCAs)								
				Result 1				
Perfluorobutanoic acid (PFBA)	TW23-My0013374	CP	%	97		50-150	Pass	
Perfluoropentanoic acid (PFPeA)	TW23-My0013374	CP	%	83		50-150	Pass	
Perfluorohexanoic acid (PFHxA)	TW23-My0013374	CP	%	99		50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	TW23-My0013374	CP	%	93		50-150	Pass	
Perfluorooctanoic acid (PFOA)	TW23-My0013374	CP	%	113		50-150	Pass	
Perfluorononanoic acid (PFNA)	TW23-My0013374	CP	%	96		50-150	Pass	
Perfluorodecanoic acid (PFDA)	TW23-My0013374	CP	%	106		50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW23-My0013374	CP	%	93		50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	TW23-My0013374	CP	%	94		50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	TW23-My0013374	CP	%	74		50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW23-My0013374	CP	%	75		50-150	Pass	
Spike - % Recovery								
Perfluoroalkyl sulfonamido substances								
				Result 1				
Perfluorooctane sulfonamide (FOSA)	TW23-My0013374	CP	%	84		50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW23-My0013374	CP	%	80		50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW23-My0013374	CP	%	60			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW23-My0013374	CP	%	86			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW23-My0013374	CP	%	75			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW23-My0013374	CP	%	102			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW23-My0013374	CP	%	75			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSA)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	TW23-My0013374	CP	%	87			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	TW23-My0013374	CP	%	101			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW23-My0013374	CP	%	71			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW23-My0013374	CP	%	92			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW23-My0013374	CP	%	102			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW23-My0013374	CP	%	109			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW23-My0013374	CP	%	77			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW23-My0013374	CP	%	76			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW23-My0013374	CP	%	96			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW23-My0013374	CP	%	76			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW23-My0013374	CP	%	75			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW23-My0013374	CP	%	62			50-150	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCA)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	TW23-My0013373	CP	ug/L	0.28	0.27	4.0	30%	Pass	
Perfluoropentanoic acid (PFPeA)	TW23-My0013373	CP	ug/L	0.39	0.38	2.3	30%	Pass	
Perfluorohexanoic acid (PFHxA)	TW23-My0013373	CP	ug/L	1.8	1.7	7.8	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	TW23-My0013373	CP	ug/L	0.18	0.18	1.7	30%	Pass	
Perfluorooctanoic acid (PFOA)	TW23-My0013373	CP	ug/L	0.60	0.56	6.8	30%	Pass	
Perfluorononanoic acid (PFNA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorododecanoic acid (PFDoDA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTTrDA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFASs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	TW23-My0013373	CP	ug/L	0.76	0.78	2.6	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	TW23-My0013373	CP	ug/L	0.48	0.50	2.4	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	TW23-My0013373	CP	ug/L	0.82	0.85	4.4	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	TW23-My0013373	CP	ug/L	6.8	6.0	12	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	TW23-My0013373	CP	ug/L	0.63	0.58	9.4	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	TW23-My0013373	CP	ug/L	11	13	16	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSA)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	TW23-My0013373	CP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	TW23-My0013373	CP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N09	Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).

Authorised by:

 Analytical Services Manager
 Senior Analyst-PFAS


General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.



Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
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Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
Penrose
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

Christchurch
43 Detroit Drive
Rolleston
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]

Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Order No.: 60612487_2.1
Report #: 986709
Phone: [REDACTED]
Fax: [REDACTED]

Received: May 5, 2023 11:25 AM
Due: May 12, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	0874_QC221_230503	May 03, 2023		Soil	TW23-My0013360		X	X
2	0874_QC208_230421	Apr 21, 2023		Soil	TW23-My0013361		X	X
3	0874_QC213_230422	Apr 22, 2023		Soil	TW23-My0013362		X	X
4	0874_QC211_230421	Apr 21, 2023		Soil	TW23-My0013363		X	X
5	0874_QC222_230504	May 04, 2023		Water	TW23-My0013364			X
6	0874_QC224_230504	May 04, 2023		Water	TW23-My0013365			X
7	0874_QC219_230427	Apr 27, 2023		Water	TW23-My0013366			X
8	0874_QC223_230504	May 04, 2023		Water	TW23-My0013367			X



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NATA# 2377 Site# 2370

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Christchurch
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Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: AECOM Aust Pty Ltd TSV
Address: [REDACTED]

Project Name: QLD_0874_PFASOMP_23
Project ID: 60612487_2.1

Order No.: 60612487_2.1
Report #: 986709
Phone: [REDACTED]
Fax: [REDACTED]

Received: May 5, 2023 11:25 AM
Due: May 12, 2023
Priority: 5 Day
Contact Name: [REDACTED]

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
9	0874_QC217_230426	Apr 26, 2023		Water	TW23-My0013368			X
10	0874_QC552_230505	May 05, 2023		Water	TW23-My0013369			X
11	0874_QC207_230420	Apr 20, 2023		Water	TW23-My0013370			X
12	0874_QC218_230426	Apr 26, 2023		Water	TW23-My0013371			X
13	0874_QC212_230422	Apr 22, 2023		Water	TW23-My0013372			X
14	0874_QC206_230420	Apr 20, 2023		Water	TW23-My0013373			X
15	0874_QC209_230421	Apr 21, 2023		Water	TW23-My0013374			X
16	0874_QC220_230503	May 03, 2023		Water	TW23-My0013375			X
17	0874_QC214_230422	Apr 22, 2023		Water	TW23-My0013376			X
18	0874_QC210_	Apr 21, 2023		Water	TW23-			X



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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	AECOM Aust Pty Ltd TSV	Order No.:	60612487_2.1	Received:	May 5, 2023 11:25 AM
Address:	[REDACTED]	Report #:	986709	Due:	May 12, 2023
		Phone:	[REDACTED]	Priority:	5 Day
		Fax:		Contact Name:	[REDACTED]
Project Name:	QLD_0874_PFASOMP_23				
Project ID:	60612487_2.1				

Eurofins Analytical Services Manager : [REDACTED]

Sample Detail						HOLD	Moisture Set	Per- and Polyfluoroalkyl Substances (PFASs)
Brisbane Laboratory - NATA # 1261 Site # 20794						X	X	X
18	0874_QC210_230421	Apr 21, 2023		Water	TW23-My0013377			
19	0874_QC215_230425	Apr 25, 2023		Water	TW23-My0013378			X
20	0874_QC253_230421	Apr 23, 2023		Water	TW23-My0013379	X		
21	0874_QC254_230421	Apr 21, 2023		Water	TW23-My0013380	X		
22	0874_QC216_230425	Apr 25, 2023		Water	TW23-My0013381	X		
Test Counts						3	4	19

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

Sample Receipt Advice

Company name:	AECOM Aust Pty Ltd TSV
Contact name:	[REDACTED]
Project name:	QLD_0874_PFASOMP_23
Project ID:	60612487_2.1
Turnaround time:	5 Day
Date/Time received	May 5, 2023 11:25 AM
Eurofins reference	986709

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

552 labels smudged and hard to read

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

[REDACTED] on phone : or by email: [REDACTED]@eurofins.com

Results will be delivered electronically via email to [REDACTED] - [REDACTED]

Note: A copy of these results will also be delivered to the general AECOM Aust Pty Ltd TSV email address.

Appendix F

Calibration Certificates

Multi Parameter Water Meter**airmet**

Air-Met Scientific Pty Ltd
1300 137 067

Instrument YSI Quatro Pro Plus
Serial No. 18G103299

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. pH 7.00		pH 7.00		398134	pH 7.02
2. pH 4.00		pH 4.00		393112	pH4.00
3. ORP		237.8mV		398884/395763	237.4mV
4. SPC		1413uS/cm		393776	1414uS/cm
5. D.O		0.00%		11343	0.00%
6. Temp		21.0°C		MultiTherm	21.0°C

Calibrated by: [REDACTED]

Calibration date: 23/03/2023

Next calibration due: 23/09/2023

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAHF	Project Number:	60612487-2.1
Project Location:	Townsville RW	Client:	Dept of Defence
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier: Airmet

Make and Model: XSI ProPlus

Serial Number:

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time: 11/4/23 12:55

Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
	7 pH	4 pH		mV	ppm %
Units			$\mu\text{S/cm}$		
Calibration Standard Concentration:	<u>6.98</u>	<u>4.02</u>	<u>2760</u>	<u>217.2</u>	<u>100</u>
Calibration Reading:	<u>7.19</u>	<u>4.12</u>	<u>3329</u>	<u>202.2</u>	<u>99.2</u>
Calibration Temperature:	<u>28.9</u>	<u>35.6</u>	<u>35.7</u>	<u>36.5</u>	<u>35.7</u>

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:

Parameter	Acidity		Conductivity	Dissolved Oxygen	
	pH	pH		$\mu\text{S/cm}$	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated fully and bump tested as required by fieldwork staff.

_____ 11/4/23
Date

Distribution: Project _____

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OUP PFAS RAAF	Project Number:	60612487
Project Location:	RAF Base	Client:	60612487-2.1
PM Name:	[Redacted]	Fieldwork Staff Name:	Reference

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	YSI AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102374 18K102374

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	11/4/23 1115				
Parameter	Acidity		Conductivity	ORP/Dissolved Oxygen	
Units	pH 7	pH 4	µS/cm	mV	%
Calibration Standard Concentration:	6.49	4.01	38300	229.3	100
Calibration Reading:	7.00	4.02	37300	221.6	99.7
Calibration Temperature:	30.0°	29.9°	30.2	30.1°	33.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument must be calibrated daily and bump tested as required by fieldwork staff.

 [Redacted Signature] _____
 Date: 11/4/23

Distribution: Project Central File

FQM - Water Quality Meter Calibration Record

Project Name:	OUP PEAS RAF	Project Number:	60612487
Project Location:	RAF Base	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	12/4				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	7 pH	4 pH	µS/cm	ORP ppm	% ppm
Calibration Standard Concentration:	7	4	2760	2260	100
Calibration Reading:	6.02	4	538 2760	2263	100.3
Calibration Temperature:	28.6	28.5	28.6	28.8	29.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:	7				
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature: _____ Date: 12/4/23

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP RAAF	Project Number:	606 2287
Project Location:	RAAF Base	Client:	Defence
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102354

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	13/4 08:45				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	9 pH	7 pH	µS/cm	ORP ppm	96 ppm
Calibration Standard Concentration:	4	7	2760	226.3	100
Calibration Reading:	4.01	6.84	2484	229.2	99.8
Calibration Temperature:	28.2	28.7	28.8	28.7	29.8

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument is calibrated daily and bump tested as required by fieldwork staff.

_____ 13/4/27 _____
 Fieldwork Staff Signature Date

Distribution: Project Central File

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	OMP PETS RAAF	Project Number:	60612987
Project Location:	RAAF Base	Client:	Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	14/4/23 08:45				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH 4	pH 7	µS/cm	ppm mV	ppm O ₂
Calibration Standard Concentration:	4.01	7.0	2766	2244	106
Calibration Reading:	4.02	7.01	2495	2231	99.8
Calibration Temperature:	28.8	29.0	29.	29.1	33.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Large empty space for comments]

Approval and Distribution

Each individual instrument is calibrated daily and bump tested as required by fieldwork staff.

Fieldwork Staff Signature

14/4/23

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	Townsville Qld	Client:	Dept of Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro Plus - YSI Pro DSS
Serial Number:	TSK102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	17/4/23 1300				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV	ppm %
Calibration Standard Concentration:	4.0	7.0	2760	228.7	99.8
Calibration Reading:	4.01	6.92	3015	230.7	100.1
Calibration Temperature:	25.9	26.2	26.6	26.8	26.4

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

_____ 17/4/23 _____
 Date

Distribution: Project _____

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF		Project Number:	60612487.2.1	
Project Location:	Tombasville Rd		Client:	Dept of Defence	
PM Name:	[REDACTED]		Fieldwork Staff Name:	[REDACTED]	
This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.					
INSTRUMENT DETAILS					
Supplier:	AECOM				
Make and Model:	YSI Pro DSS				
Serial Number:	18K102334				
CALIBRATION					
CALIBRATE WITH CALIBRATION SOLUTIONS					
Date and Time:	18/4/23 0915				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.00	7.00	2760	228.9	100
Calibration Reading:	4.11	6.98	2672	241 237.6	100.3
Calibration Temperature:	26.3	26.6	26.5	26.7	26.6
ONGOING CHECKS					
BUMP TEST WITH CALIBRATION SOLUTION					
Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					
COMMENTS					
Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.					
Approval and Distribution					
<input type="checkbox"/> Each individual instrument has been inspected, calibrated and bump tested as required by fieldwork staff.					
[REDACTED]			18/4/23		
Distribution:			Date		

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	TOWNSVILLE QLD	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	19-4-23 0930				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV	%
Calibration Standard Concentration:	4.0	7.0	2760	226.8	100
Calibration Reading:	4.16	6.94	2823	224.0	98.3
Calibration Temperature:	27.9	27.8	27.8	28.3	26.7

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument should be calibrated and bump tested as required by fieldwork staff.

_____ 19/4/23 _____
 Date

Distribution: Project Centre

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	TOWNSVILLE, QLD	Client:	DEPT OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	VSI PRO PSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	20/4/23 0925				
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	4 pH	7 pH	2760 μ S/cm	ORP / mV ppm	% ppm
Calibration Standard Concentration:	4.00	7.00	2760	228.0	100
Calibration Reading:	4.09	7.12	2670	222.0	101.1
Calibration Temperature:	27.7	27.5	27.4	27.3	27.1

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	μ S/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected and calibrated daily and bump tested as required by fieldwork staff.

 _____ 20/4/23

 Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487_2.1
Project Location:	TOWNSVILLE NS	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO OSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	21.4.23				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	2760 μ S/cm	mV ppm	% ppm
Calibration Standard Concentration:	4.01	7.00	2760	230	100.0
Calibration Reading:	3.98	6.92	2769	233.1	100.3
Calibration Temperature:	27.1	26.9	26.6	26.6	26.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	μ S/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Large empty area for comments]

Approval and Distribution

Each individual instrument was checked and calibrated daily and bump tested as required by fieldwork staff.

_____ 21.4.23 _____
Date

Distribution: Project Co

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	Townsville Rd	Client:	Dept of Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	22/4/23 0930				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	mV ppm	% ppm
Calibration Standard Concentration:	4.00	7.00	2760	230	100
Calibration Reading:	4.01	6.99	2694	231.3	100.4
Calibration Temperature:	26.9	27.1	26.8	26.9	26.0

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution :

Each individual instrument has been inspected and certified and bump tested as required by fieldwork staff.

_____ 22/4/23 _____
Date

Distribution: Project [Redacted]

FQM - Water Quality Meter Calibration Record

Project Name:	PFAS OMP RAAF	Project Number:	60612487_2.1
Project Location:	TOWNSVILLE QLD	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO PLUS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS:

Date and Time:	25-4-23 0850				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	2760 μ S/cm	mV ppm	% ppm
Calibration Standard Concentration:	4	7	2760	230.0	100
Calibration Reading:	4.0	7.0	2741	231.2	100.3
Calibration Temperature:	26.1	26.3	27.1	26.8	26.9

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	μ S/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual calibrated daily and bump tested as required by fieldwork staff.

[REDACTED]

25-4-23

Date

Distribution: Project Central File

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	TOWNSVILLE QLD	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO PLUS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	26-4-23 1130				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	pH	pH	µS/cm	mV ppm	% ppm
Calibration Standard Concentration:	4	7	2760	230	100
Calibration Reading:	4.00	6.93	2762	230	100
Calibration Temperature:	20.9	29.0	29.6	29.4	25.2

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual [REDACTED] calibrated daily and bump tested as required by fieldwork staff.

_____ 26-4-23 _____

Distribution: Project Central File

Date

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PEAS OMP RAAF	Project Number:	60612487.2.1
Project Location:	Tonawsville, QLD	Client:	Dept of Defence
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	Airmed
Make and Model:	YSI Pro Plus
Serial Number:	189103299

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	27/4/23 1245				
Parameter	Acidity		Conductivity	ORP	Dissolved Oxygen
Units	4 pH	7 pH	µS/cm	mV	% ppm
Calibration Standard Concentration:	4.00	7.00	WQM stopped		
Calibration Reading:	4.19	6.97	working		
Calibration Temperature:	26.8	27.3			

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:				
Parameter	Acidity		Conductivity	Dissolved Oxygen
Units	pH	pH	µS/cm	ppm
Calibration Standard Concentration:				
Bump Test Reading:				
Bump Test Temperature:				

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual has signed and dated daily and bump tested as required by fieldwork staff.

_____ 27/4/23 _____
 Distribution: _____ Date

ANZ

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	TOWNSVILLE QLD	Client:	DEPT. OF DEFENCE
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldworks.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI PRO PLUS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:					
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	pH	pH	µS/cm	mV ppm	% ppm
Calibration Standard Concentration:	400	7	2760	221.4	
Calibration Reading:	4.14	7.04	2895	219.9	100.0
Calibration Temperature:	32.4	32.9	32.4	32.3	30.7

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual inspected and calibrated daily and bump tested as required by fieldwork staff.

Signature 27.4.23 Date

Distribution: Project Central File

FQM - Water Quality Meter Calibration Record

Q4AN(EV)-410-FM1

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	Townsville QLD	Client:	Dept of Defence
PM Name:	[REDACTED]	Fieldwork Staff Name:	[REDACTED]

This calibration record is intended to prompt fieldwork staff to calibrate water quality meter (WQM) daily before the start of fieldwork.

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	28/4/23 0930				
Parameter	Acidity		Conductivity	ORP / Dissolved Oxygen	
Units	4 pH	7 pH	µS/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.00	7.01	2760	231.2	100
Calibration Reading:	4.09	7.02	2327	234.1	100.5
Calibration Temperature:	24.4	24.5	24.6	24.8	25.4

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	µS/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

[Empty space for comments]

Approval and Distribution

Each individual instrument has been inspected, calibrated daily and bump tested as required by fieldwork staff.

 [Signature] Date: 28/4/23

Distribution: Project Central File

FQM - Water Quality Meter Calibration Record

Project Name:	PFAS OMP RAAF	Project Number:	60612487-2.1
Project Location:	Townsville, Qld	Client:	Dept of Defence
PM Name:	[Redacted]	Fieldwork Staff Name:	[Redacted]
This calibration record is intended for use with a water quality meter (WQM) daily before the start of fieldwork.			

INSTRUMENT DETAILS

Supplier:	AECOM
Make and Model:	YSI Pro DSS
Serial Number:	18K102334

CALIBRATION

CALIBRATE WITH CALIBRATION SOLUTIONS

Date and Time:	4/5/23 0915				
Parameter	Acidity		Conductivity	ORP /	Dissolved Oxygen
Units	4 pH	7 pH	μ S/cm	mV ppm	ppm %
Calibration Standard Concentration:	4.00	7.00	2760	229.2	100
Calibration Reading:	3.88	6.87	2257	235.5	99.3
Calibration Temperature:	24.9	25.7	26.0	25.8	26.5

ONGOING CHECKS

BUMP TEST WITH CALIBRATION SOLUTION

Date and Time:					
Parameter	Acidity		Conductivity	Dissolved Oxygen	
Units	pH	pH	μ S/cm	ppm	ppm
Calibration Standard Concentration:					
Bump Test Reading:					
Bump Test Temperature:					

COMMENTS

Detail any equipment faults, minor maintenance performed, change of batteries or technical support provided.

Approval and Distribution

Each individual instrument was calibrated and bump tested as required by fieldwork staff.

_____ Date: 4/5/23

Distribution: Project Co [Redacted]